Progress Energy

Crystal River Nuclear Plant
Docket No. 50-302
Operating License No. DPR-72

Ref: 10 CFR 50.55a

August 15, 2011
3F0811-08

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

Subject: Crystal River Unit 3 - Snubber Inspection and Testing Program Manual, Revision 7

Dear Sir:

Florida Power Corporation (FPC), doing business as Progress Energy Florida, Inc., is hereby submitting the Crystal River Unit 3 (CR-3) Snubber Inspection and Testing Program Manual, Revision 7, to the Nuclear Regulatory Commission (NRC) for information. No changes have been made to the test plan methodology that would require submittal of the subject document to the NRC under the requirements of the 2001 Edition through the 2003 Addenda of the American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code, Subsection ISTA-3200, "Administrative Requirements." However, the subject document has been revised to use OM Code Case OMN-13, "Requirements for Extending Snubber Inservice Visual Examination Interval at LWR Power Plants," to perform visual examinations over a 10 year interval. This change was made necessary due to the current extended CR-3 refueling outage that will delay the next CR-3 refueling outage start date and result in the inability to perform the next examination interval within the 48 month (± 25%) allowance specified in Table ISTD-4252-1, "Visual Examination Table."

No regulatory commitments are being made in this submittal.

If you should have any questions regarding this submittal, please contact Mr. Dan Westcott, Superintendent, Licensing & Regulatory Programs, at (352) 563-4796.

Sincerely,

R. A. Wiemann for S. J. Cahill

Stephen J. Cahill
Director–Engineering–Nuclear

SJC/dwh

Attachment: Crystal River Unit 3 - Snubber Inspection and Testing Program Manual, Revision 7

xc: NRR Project Manager
Regional Administrator, Region II
Senior Resident Inspector

**Progress Energy Florida, Inc.**
Crystal River Nuclear Plant
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A047
NRR

PROGRESS ENERGY FLORIDA, INC.

CRYSTAL RIVER - UNIT 3

DOCKET NUMBER 50 - 302 / LICENSE NUMBER DPR - 72

ATTACHMENT

# CRYSTAL RIVER UNIT 3
# SNUBBER INSPECTION AND TESTING PROGRAM MANUAL
# REVISION 7

**Progress Energy**

# CRYSTAL RIVER UNIT 3

## ASME SECTION XI / ASME OM CODE

## INTERVAL 4

# SNUBBER INSPECTION AND TESTING PROGRAM MANUAL

**(Revision 7)**

**EFFECTIVE DATES: August 14th, 2008 through August 13th, 2018**

Portmann, Rick
Prepared By
**Prepared by:** 2011.02.17 17:08:11 -05'00'

Howard, Timothy R
Supervisor Approval
**Approved by:** 2011.04.20 13:14:51 -04'00'

Program/Plan Title: **Snubber Inspection and Testing Program Manual**

Revision Number: **7, Feb. 17, 2011**

## CONFIGURATION DOCUMENT INTERFACE REVIEW FORM

| DOCUMENT | DESCRIPTION | Change Process | Affected? (Yes/No) | Change Initiated By |
|---|---|---|---|---|
| DBD | Design Basis Document | NEP-216 | No | N/A |
| EDBD | Enhanced Design Basis Document | NEP-216 | No | N/A |
| TBD | Technical Basis Document | NEP-216 | No | N/A |
| ISI | ISI Component and Structures Examination Program | NEP-301 | No | N/A |
| IST | Snubber Inspection and Testing Program | NEP-301 | No | N/A |
| ISI | Repair/Replacement Program | NEP-301 | No | N/A |
| ISI | Steam Generator Integrity Program (Eddy Current Data Analysis Guidelines) | NEP-301 | No | N/A |
| IST | IST Pump and Valve Program | NEP-301 | No | N/A |
| FSAR | Final Safety Analysis Report | REG-NGGC-0101 | No | N/A |
| ITS | Improved Technical Specifications | REG-NGGC-0100 | No | N/A |
| SER | Safety Evaluation Report | REG-NGGC-0100 | No | N/A |
| EDB | Equipment Data Base | EGR-NGGC-0012 | No | N/A |
| NOCS | Nuclear Operations Commitment System | CP-252 | No | N/A |
| NOCS | Nuclear Operations Commitment System | REG-NGGC-0110 | No | N/A |
| Mech. Calcs | Mechanical Calculations | EGR-NGGC-0017 | No | N/A |
| Struc. Calcs | Structural Calculations | EGR-NGGC-0017 | No | N/A |
| AI | Administrative Procedures | PRO-NGGC-0204 | No | N/A |
| CP | Compliance Procedures | PRO-NGGC-0204 | No | N/A |
| MP | Maintenance Procedures | PRO-NGGC-0204 | No | N/A |
| PT | Performance Testing Procedures | PRO-NGGC-0204 | No | N/A |
| SP | Surveillance Procedures | PRO-NGGC-0204 | No | N/A |
| Other | N/A | N/A | N/A | N/A |

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**ASME SECTION XI / ASME OM CODE PROGRAM/PLAN REVIEWER APPROVAL FORM**

Program/Plan Title: **Snubber Inspection and Testing Program Manual** New Rev. #: **7**

| Reviewer Approvals | Reviewed/Verified By | Date | Comments Attached | No Comments |
|---|---|---|---|---|
| Independent Technical Review<br><br>Print Name: Jim Salton | James Salton<br>I have reviewed this document.<br>2011.04.20 07:20:53 -04'00' | (See Signature Stamp) | None or Resolved | N/A |
| Verification (Eddy Current Data Analysis Guidelines only)<br><br>Print Name: N/A | N/A | N/A | N/A | N/A |
| Other - ANII<br><br>Print Name: Loyd Larramore | Larramore, Loyd<br>2011.04.20 09:12:27 -04'00' | (See Signature Stamp) | None or Resolved | N/A |
| Other [ ] | N/A | N/A | N/A | N/A |
| Other [ ] | N/A | N/A | N/A | N/A |

**Notes for review:**

Updated Manual Attachment 5 due to R16 Design Changes (EC's 70080, 70101, 74597) and updated service life dates as authorized in Calculation S94-0089 Rev. 2. Adopted ASME OM Code Case OMN-13 (Approved in Reg. Guide 1.192) to perform visual examinations over a 10 year interval. Updated various position title changes. Eliminated snubbers MUH-38 through -40 in various attachments per EC# 77257. [DRR444345].

| Progress Energy | **ASME SECTION XI / ASME OM CODE PROGRAM/PLAN DESCRIPTION REASONS, AND REFERENCES** |
|---|---|

Program/Plan Title: **Snubber Inspection and Testing Program Manual**

NEW REVISION NUMBER: **7, Feb. 17, 2011**

DESCRIPTION OF NEW PROGRAM/PLAN OR CHANGE (Detailed):

Updated Manual Attachment 5 due to R16 Design Changes (EC's 70080, 70101, 74597) and updated service life dates as authorized in Calculation S94-0089 Rev. 2. Adopted ASME OM Code Case OMN-13 (Approved in Reg. Guide 1.192) to perform visual examinations over a 10 year interval. Updated various position title changes. Eliminated snubbers MUH-38 through -40 in various attachments per EC# 77257. [DRR444345].

REASON FOR PROGRAM/PLAN OR CHANGE:

R16 Design Changes (EC's 70080, 70101, 74597, 77257) added and deleted snubbers as well as updated service life dates as authorized in Calculation S94-0089 Rev. 2. With the change in the next refueling outage start date CR3 will not be able to perform the next examination interval within the 48 month (± 25%) allowance in the OM, Subsection ISTD Code. To accommodate we have elected to update the program and use OM Code Case OMN-13 to perform visual examinations over a 10 year interval. Equipment Performance was changed to Engineering Programs. [DRR444345].

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# ASME SECTION XI / ASME OM CODE PROGRAM MANUAL/PLAN REVISION HISTORY

| Revision Number | Change Number | Reason for Revision | Date Entered | Entered By |
|---|---|---|---|---|
| 1 | N/A | Update current procedures, references and to add snubber service life information as well as update snubber listings to the current plant configuration. | 11/19/04 | P. Peterson |
| 2 | N/A | Revised to update current procedures and references, delete snubbers eliminated by R14 Engineering Changes (EC's) and change those modified from Power Piping to Lisega Hydraulic snubbers by R14 EC's. Snubber totals and breakdowns were also adjusted to reflect actual (current) snubber populations. Added new Attachment 11: Snubber Tech. Spec. Information Table as a result of License Amendment #224. (Ref. EC's 59799, 59887, 59925, 59926, 59939, 59944, 60324). | 9/10/07 | R. Portmann |
| 3 | N/A | Refuel 15 implemented Engineering Changes to numerous snubbers installed in the plant. Most of the modifications were to change Power Piping Hydraulic Snubbers to Lisega Hydraulic Snubbers. The remainder of the changes was snubber eliminations or changing snubbers to struts. Also deletes procedure references applicable to ITT Grinnell snubbers which are no longer installed at CR3. (Ref. EC's 52000-59935, 65794, 65795, 64167). | 1/3/08 | R. Portmann |
| 4 | N/A | The Snubber Inspection and Testing Program is being revised in its entirety due to the 10CFR Interval Update Requirement. The new Code requirements of ASME Section XI (2001 Edition through the 2003 Addenda) and the ASME OM Code (2001 Edition through the 2003 Addenda) are in effect for the 4$^{th}$ Interval. | 8/13/08 | R. Portmann |
| 5 | N/A | Minor revision to clarify para. 6.8.6.1 as the result of a recommendation from Self Assessment SA216783 [DRR339187]. | 6/11/09 | R. Portmann |
| 6 | N/A | Updated Manual Attachments due to R16 Design Changes (EC's 70080, 70101, 74597) and procedure number change (CP-126 to REG-NGGC-0101) [DRR375314 / DRR401449]. | 2/1/10 | R. Portmann |
| 7 | N/A | Updated Manual Attachment 5 due to R16 Design Changes (EC's 70080, 70101, 74597) and updated service life dates as authorized in Calculation S94-0089 Rev. 2. Adopted ASME OM Code Case OMN-13 (Approved in Reg. Guide 1.192) to perform visual examinations over a 10 year interval. Updated various position title changes. Eliminated snubbers MUH-38 through -40 in various attachments per EC# 77257. [DRR444345]. | 2/17/11 | R. Portmann |

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# ASME SECTION XI / ASME OM CODE PROGRAM MANUAL/PLAN REVISION REGULATORY IMPACT REVIEW



1. Is this change consistent with the ASME Section XI Code of Record for the applicable program manual or plan or has it been pre-approved in Generic Regulatory Compliance (e.g. RG 1.147 or NUREG 1482)?

   ___ "NO", initiate a relief request in accordance with NEP-305 and obtain approval from NRC prior to implementation of program manual/plan change.

   √ "YES", no further action required, proceed to question 2.

2. Is this change consistent with other applicable regulatory obligations (such as augmented examinations in 10CFR50.55a)?

   ___ "NO", forward to Support Services to obtain applicable exemption or approval prior to implementation of program manual/plan change.

   √ "YES", no further action required, proceed to question 3.

3. Is this change consistent with written commitments made by Progress Energy (responses to violations, LER commitments, Generic Letter responses, etc.)?

   ___ "NO", initiate commitment change in accordance with REG-NGGC-0110 prior to implementing program manual/plan change.

   √ "YES", no further action required, proceed to question 4.

4. Was the information being changed the basis for any decision in an NRC Safety Evaluation Report?

   √ "NO", no further action required, proceed to question 5.

   ___ "YES", contact Support Services to determine appropriate actions prior to implementation of the program manual/plan change.

5. Was the information being changed originally incorporated as a corrective action or action to prevent recurrence of an adverse condition?

   √ "NO", no further action required, proceed to question 6.

   ___ "YES", document the basis for why the revised program manual/plan information ensures continued correction of the problem or minimizes recurrence of the adverse condition:

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6.0 Does this change:

- Alter the objective or purpose of the program manual or plan? ~~YES~~ / **NO**
- Have the potential to cause an SSC to be used in a manner outside the design basis or limit the ability of the SSC to perform its safety function? ~~YES~~ / **NO**
- Alter any program, inspection or test description in the SAR? ~~YES~~ / **NO**
- Delete components previously inspected or tested? [Yes, as approved via EC's 70080, 70101, 74597, 77257] **YES** / ~~NO~~
- Change the inspection or test method previously required? ~~YES~~ / **NO**
- Alter acceptance criteria, setpoints, values used to support equipment setup, or values used to make a conclusion or acceptability? ~~YES~~ / **NO**
- Potentially reduce the level of nuclear safety or lead to an event that impacts safe operations OR create a less conservative method of achieving the task OR create a task or series of steps which have an unknown effect on nuclear safety? ~~YES~~ / **NO**

Any "YES" answer in item 6 requires completion of a 50.59 screen/evaluation in accordance with REG-NGGC-0010. (See AR# 460522)

Prepared By: Rick Portmann — Portmann, Rick Prepared By 2011.04.19 15:09:08 -04'00' — Date (See Signature Stamp)

Independent Approval by 50.59 qualified person: Greg Estep — Estep, Greg Reviewed By 2011.04.20 09:51:27 -04'00' — Date (See Signature Stamp)

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## 1.0 PURPOSE

1.1 The Snubber Inspection Program Manual establishes and defines the Snubber Program Administrative requirements as detailed in Crystal River Unit 3 Improved Technical Specifications, Sections 5.6.2.8 and 5.6.2.9. The primary purpose of this snubber program is to maintain the operational readiness of all Class 1, 2, 3 and MC component snubbers by periodically examining, testing and monitoring service life to fulfill applicable plant operating commitments, ASME Section XI, ASME/ANSI OM Code, and OM Code Case OMN-13 requirements.

## 2.0 SCOPE

2.1 As per 10CFR50.55a, the code update requirements for the Fourth Inspection Interval (August 14, 2008 - August 13, 2018), implement as the applicable code of record, ASME Section XI, 2001 Edition through the 2003 Addenda and ASME Code for Operation and Maintenance of Nuclear Power Plants (ASME OM Code), 2001 Edition through the 2003 Addenda.

2.2 Progress Energy correspondence 3F1207-04 notified the NRC of our 10CFR50.55a(g) requirement to use the ASME Section XI, 2001 Edition through the 2003 Addenda, and 10CFR50.55a(b)(3)(v) intention to use the ASME OM Code, Subsection ISTD, 2001 Edition through the 2003 Addenda for examination and testing of snubbers based upon a refueling interval of 24 months.

2.3 Additional Snubber Program requirements as detailed in the Crystal River Unit 3 Improved Technical Specifications sections 5.6.2.8 and 5.6.2.9. are addressed in this Program Manual.

2.4 The Snubber Program supports the Requirements of Maintenance Rule, 10CFR50.65, through implementation of condition monitoring activities to provide reasonable assurance that structures, systems and components within the scope of the program will perform their intended functions.

2.5 All snubbers subject to examination and testing in accordance with this Program Manual are listed in Attachments 1, 2 & 3. These are categorized as Accessible or Inaccessible for Small, Medium or Large Bore snubbers and classified as Safety Related, Non-Safety Related, or Safety Significant. Accessibility was determined based on snubber location and accessibility during reactor operations, consideration of manufacturers design characteristics and plant operating conditions (radiation levels during plant operation, temperature and atmosphere).

2.6 Safety Related and Safety Significant snubbers shall be examined and tested in accordance with the requirements of ASME Section XI and ASME OM Codes as detailed in this Program Manual.

2.7 Non-Safety Related snubbers are not addressed by ASME Section XI or ASME OM Code requirements and therefore, considered an Augmented Non-Safety Scope and are listed in Attachment 4 of this Program Manual. In keeping with good engineering practices to

provide assurance of structural reliability, these snubbers are periodically inspected under an Augmented Scope in accordance with PM-111, titled "Check of Hydraulic Pipe Snubbers," as required.

2.8 The program was revised in RFO16 and adopted OM Code Case "OMN-13 – Requirements for Extending Snubber Inservice Visual Examination Interval at LWR Power Plants". The code case has been approved by the NRC and is authorized for use (Ref. NRC Reg. Guide 1.192). Beginning in RFO16 CR3 will start performing visual examinations of snubber over a 10 year interval. Attachment 12 lists the snubbers and tracks the snubber examination visual examination performance.

## 3.0 REFERENCES

3.1 10 CFR 50.55a, Codes and Standards

3.2 ASME Section XI, Rules for Inservice Inspection of Nuclear Power Plant Components, 2001 Edition through the 2003 Addenda.

3.3 ASME OM Code, Operation and Maintenance of Nuclear Power Plants, 2001 Edition through the 2003 Addenda.

3.4 Crystal River Unit 3 Improved Technical Specifications, Sections 5.6.2.8 and 5.6.2.9.

3.5 AI-701, Administration of the ASME Section XI and ASME OM Code Inservice Inspection, Examination, and Testing Programs

3.6 REG-NGGC-0010, 10 CFR 50.59 and Selected Regulatory Reviews

3.7 Design Analysis/Calculation S-94-0089, Snubber Seal Life Extension Study

3.8 Design Analysis/Calculation S-99-0621, Evaluate of Thermal Movements for Reactor Building Snubbers

3.9 Design Analysis/Calculation S-99-0622, Evaluation Thermal Movements for Balance of Plant Snubbers

3.10 Florida Power Corporation, IOC WPN84-0950, Engineering Guidelines for the Installation, Maintenance and Inspection of Small Bore Hydraulic Snubbers

3.11 Florida Power Corporation, IOC NL99-0011, Nuclear Licensing response on Snubber Removal

3.12 Florida Power Corporation, IOC NPTS 00-0008, Plant Technical Support/EQ, Snubber Seal Life.

3.13 MP-128, Removal and Replacement of RC Pump Hydraulic Shock Suppressers

3.14 MP-174, Power Piping Pipe Snubber Rebuild Procedure

3.15 MP-175, Power Piping Pipe Snubber Removal and Installation

3.16 MP-177, Power Piping Snubber In-Place Maintenance

3.17 MP-400, Barker/Diacon 130 Kip Bench Tester Model S-4000 Upgrades

3.18 NDEP-A, Nuclear NDE Program And Personnel Process

3.19 NEP-301, Control of ASME Section XI and ASME OM Code Inspection, Examination and Testing Program Plans, Manuals, and Reports

3.20 Paul-Munroe Hydraulics, Large Bore Snubber Maintenance Manual

3.21 Pipe Hangers and Supports, Power Piping Company Catalog 72 and Catalog 90.

3.22 PM-111, Check of Hydraulic Pipe Snubbers

3.23 Power Piping Company, series 1900 Hydraulic Snubber Installation and Maintenance Manual

3.24 SP-200, Functional Testing of Hydraulic Snubbers

3.25 SP-201, Hydraulic Snubbers Visual Inspection

3.26 SP-208, Visual Examination of Component Supports

3.27 Technical Specifications, LCO 3.0.8

3.28 Code Case OMN-13

3.29 Regulatory Guide 1.192

# 4.0 ABBREVIATIONS AND DEFINITIONS

## 4.1 ABBREVIATIONS

The following standard abbreviations are used by CR3 and may be found throughout this Program Manual.

| | |
|---|---|
| AB | Auxiliary Building |
| ASME | American Society of Mechanical Engineers |
| AS | Auxiliary Steam System |
| BS | Reactor Building Spray System, and Reactor Building Pressure Sensing and Testing |
| CD | Condensate System |
| CF | Core Flood System |
| CFR | Code of Federal Regulations |
| CR3 | Crystal River Unit 3 |
| DC | Decay Heat Closed Cycle Cooling System |
| DH | Decay Heat Removal System |
| EF | Emergency Feedwater System |
| FPC | Florida Power Corporation |
| FW | Feedwater System |
| HD | Heater Drain System |
| HV | Heater Vent System |
| IB | Intermediate Building |
| ISI | Inservice Inspection |
| IST | Inservice Testing |
| MS | Main Steam System |
| MU | Makeup & Purification System |

| | |
|---|---|
| PGN | Progress Energy |
| RB | Reactor Building (Outside "D" ring) |
| RB-2 | Reactor Building (Inside "D" ring) |
| RC | Reactor Coolant System |
| RV | Reheat Vent |
| SF | Spent Fuel System |
| SW | Nuclear Services Closed Cycle Cooling System |
| TB | Turbine Building |

## 4.2 DEFINITIONS

4.2.1 **Acceptable/Satisfactory** -A snubber shall be considered acceptable/satisfactory when it meets the inspection/examination parameters and is capable of performing its design function.

4.2.2 **Accessible Snubbers** - Those snubbers that can be inspected/examined during normal plant operating conditions.

4.2.3 **Activation** - The change of condition from passive to active, in which the snubber resists/restrains rapid displacement of the attached pipe or component.

4.2.4 **Activation Velocity** - The velocity at which the snubber provides restraint of motion.

4.2.5 **Application-Induced Failures** - Failures resulting from environmental conditions or application of the snubber for which it has not been designed or qualified.

4.2.6 **As-Found** - The condition of a snubber as it exists in the system prior to any preventive maintenance, corrective maintenance, or removal/disassembly to perform testing.

4.2.7 **As-Left** - The condition of a snubber as it exists in the system after any preventive maintenance, corrective maintenance, or removal/replacement activity.

4.2.8 **Authorized Nuclear Inspector (ANI)** - An employee of an Authorized Inspection Agency who has been qualified in accordance with NCA-5000 of Section III.

4.2.9 **Authorized Nuclear Inservice Inspector (ANII)** - A person who is employed and has been qualified by an Authorized Inspection Agency to verify that examinations,

tests and repairs are performed in accordance with the rules and requirements of Section XI.

4.2.10 **Augmented Examination Program** - An inspection/examination program, which addresses additional requirements as, established by the Owner or other Regulatory Authority or Agencies that may not require complete compliance with the requirements of ASME, Section XI.

4.2.11 **Bleed Rate (Release Rate)** - The velocity of a snubber movement under a load and/or after activation takes place.

4.2.12 **Breakaway Force** - The minimum applied force required to initiate extension or retraction of the snubber.

4.2.13 **Component** - An item in a nuclear power plant such as a vessel, pump, valve, piping system or component support.

4.2.14 **Component Standard Support** - A support consisting of one or more generally mass-produced units usually referred to as catalog items.

4.2.15 **Component Support** - A metal support designed to transmit loads from a component to the load carrying building or foundation structure. Component supports include piping supports and encompass those structural elements relied upon to either support the weight or provide structural stability to components.

4.2.16 **Cylinder** - The hydraulic pressure vessel, which houses the piston, gland, seals and other components, which make up the moving part of the snubber.

4.2.17 **Dead Band** - The clearance or play (axial movement) in the snubber and snubber attachment assembly before motion causes activation.

4.2.18 **Defined Test Plan Group (DTPG)** - A population of snubbers selected for testing in accordance with the 10% testing sample plan.

4.2.19 **Degraded Condition (snubber)** - For visual examination this is a condition in which the snubber does not fully meet all the acceptable/satisfactory acceptance criteria but is still considered functional and therefore may warrant further investigation or corrective actions for continued service. For functional testing this is a condition in which the snubber is still considered acceptable/satisfactory but within 20% of the acceptance ranges or predicted to trend outside the normal functional capability or performance levels. This condition may warrant further investigation or corrective actions for continued service.

4.2.20 **Design/Manufacturing Induced Failures** - A failure resulting from a potential defect in manufacturing or design that gives cause to suspect other similar snubber failures. This includes failure of any snubber that fails to withstand the environment or application for which it is designed.

4.2.21 **Drag Force** - The force that will sustain low-velocity snubber movement without activation though out the working range of the snubber stroke.

4.2.22 **Dynamic Restraint (snubber)** - A device which provides restraint to a component or system during a sudden application of force in which the load is transmitted through a hydraulic fluid (hydraulic snubber) or through mechanical parts/items (mechanical Snubber), but allows normal (essentially free) motion of the component or system during thermal movement.

4.2.23 **End Attachments** - The connections at either end of the snubber (eyes, clevises, etc.) which are used to connect the snubber to piping, piping components and structural members.

4.2.24 **Engineering** - Provides clear and concise design requirements for both CR3 and vendor installed equipment to ensure that all requirements are met relative to snubbers. Performs evaluations for degraded or inoperable snubbers and maintains and implements the snubber inspection program.

4.2.25 **Examination/Inspection** - The performance of visual observations for impaired functional ability caused by physical damage, leakage, corrosion, or degradation from environmental or operating conditions.

4.2.26 **Examination Group** - A composition of snubbers which have been selected to be examined.

4.2.27 **Failure Mode Group (FMG)** - A group of snubbers that have failed and those other snubbers that have potential for similar failure.

4.2.28 **Functional Ability/Adequacy** - A visual examination to confirm operability by the verification of defined parameters, such as settings or freedom of motion.

4.2.29 **Functional/Operability Testing** - An element of inspection/examination done in-place, or as a bench test, of a snubber consisting of measurement and observation of all the required parameters that verify snubber performance.

4.2.30 **Inaccessible Snubbers** - Those snubbers that are in high radiation areas or other environments/conditions that would render it impractical for the snubbers to be examined during normal plant operation without exposing plant personnel to undue hazards.

4.2.31 **Inspection** - The means of examination, testing, observation or measurement, that determines the conformance of material, supplies components, parts, appurtenances, system processes, or structures to pre-determined requirements.

4.2.32 **Isolated Failure** - A failure of a snubber, the nature of which does not cause other snubbers to be suspect.

4.2.33 **Maintenance** – Replacement of parts, adjustments, and similar actions that do not change the design of the snubber taken to prevent or correct deficiencies in the functional operation of a snubber. The Maintenance department supports visual examinations, functional tests and performs maintenance and repairs on failed or degraded snubbers.

4.2.34 **Maintenance, Repair and Installation-induced Failures** - Failures that result from damage during maintenance, repair and installation activities which may cause other snubbers to be suspect.

4.2.35 **Non-Safety Related** - All component snubbers installed on non-safety related systems/equipment and determined that their failure or the failure of the system on which they are installed would have no adverse effect on any safety related system.

4.2.36 **Normal Operating Conditions** - Plant operating conditions (MODES1-6), such as reactor startup, operation at power, hot standby, and reactor cool down to cold shutdown.

4.2.37 **Operational Readiness** - The ability of a component or system to perform its intended function when required.

4.2.38 **Operations** – The Operations Department ensures compliance with plant technical requirements by determining when removal of snubbers for testing or maintenance is allowed, based on plant and system operating conditions.

4.2.39 **Operating Temperature** - The temperature of the environment surrounding a snubber at its installed location during the operating conditions for which the snubber is required.

4.2.40 **Poppet Valve** - The valve that provides the restriction to flow which results in restraint of axial motion of the snubber.

4.2.41 **Qualitative Testing** - The testing inspection/examination performed to establish the functioning of a parameter without determining the specific value/measure of the parameter, as a go/no-go gauging (e.g. Hand Stroking.)

4.2.42 **Quantitative Testing** - The testing inspection/examination performed to establish the specific measure/value or the limit/range of the functioning of a parameter to establish that a parameter is functioning within a specified range.

4.2.43 **Release Rate** - The rate of the axial snubber movement under a specified load after activation of the snubber takes place.

4.2.44 **Relevant Condition** - A condition observed during a visual examination that requires supplemental examination, corrective measure, repair, replacement, or analytical evaluation.

4.2.45 **Relief Request** - Documents submitted to the NRC requesting permission to deviate from the inspection and/or test requirements stipulated in the ASME Code. Relief Requests must provide adequate justification and require approval prior to implementation, unless the inspection or test requirement is clearly impractical or relief has been pre-approved in other regulatory publications (i.e. Regulatory Guides, NUREG's, etc.)

4.2.46 **Repair** - The action taken to correct deficiencies in the function of a snubber or process of restoring a nonconforming item by welding, brazing, or metal removal, such that existing design requirements are met.

4.2.47 **Replacement** - Spare and renewal components, appurtenances, and subassemblies or parts of a component or system. It also includes the addition of components and/or component changes.

4.2.48 **Reservoir** - The vessel which contains the hydraulic fluid for the snubber system.

4.2.49 **Safety Related (SR)** - All ASME Class 1, 2, 3 and MC component snubbers that are to be examined for the verification of operational readiness. These snubbers are required to be operable to ensure that the structural integrity of the reactor coolant system and other safety-related systems are maintained, during and following, a seismic or other event initiating dynamic loads.

4.2.50 **Safety Significant (SS)** - All component snubbers designated as non-safety but determined that their failure or the failure of the system on which they are installed would have an adverse effect on any safety-related system.

4.2.51 **Service Life** - The period of time from installation/rebuild acceptance until the snubber or individual snubber parts are replaced or retired from service.

4.2.52 **Seismic Support (Component Support)** - A metal/concrete support designed to transmit loads from a component to the load carrying building or foundation structure.

4.2.53 **Snubber** - A type of component standard support that is installed on piping and/or equipment that utilizes hydraulic or mechanical methods to provide damping capability primarily to limit the displacement of the piping or equipment during a seismic or severe transient event, while still allowing thermal expansion of piping systems and related equipment or components during normal plant operations.

4.2.54 **Swing Clearance** - The amount of free space or movement envelope within which the snubber must operate without restriction (binding or damage) from the cold installed position to the hot operating position. (E.g., 4 to 6 degree movement envelope when anchored to the component)

4.2.55 **System Temperature** - System temperature is considered cold for examinations when the steam or gas system is dry and at ambient temperature. Hot examinations

are when the steam, gas or liquid system is charged or at operating pressure and near operating temperature.

4.2.56 **Test / Testing** - A procedure to obtain information through measurement or observation to determine the operational readiness of a component while under controlled conditions.

4.2.57 **Transient/Dynamic Event** - An unexpected or potentially damaging occurrence, which was determined from, reviews of operating data or during a visual inspection/examination.

4.2.58 **Unacceptable/Unsatisfactory Snubbers** - Snubbers that do not meet the examination, testing or evaluation parameter requirements.

4.2.59 **Unexplained Failure** - A failure that cannot be categorized as design/manufacturing, maintenance/repair/installation, application induced or isolated. This includes all Failures for which the cause cannot be determined.

4.2.60 **Verify** - To determine that a particular action has been performed in accordance with the rules and requirements of this Manual or procedure either by witnessing the action or by reviewing records.

4.2.61 **Visual Examination** - Examination of components such as mechanical and hydraulic snubbers, component supports, pumps, valves and spring loaded and constant weight hangers to determine their operability, functional adequacy and general mechanical and structural condition. Visual examinations specified VT-1, VT-2, and VT-3 are defined in ASME Section XI, IWA-2000.

## 5.0 ADMINISTRATIVE CONTROLS

### 5.1 Interpretation Contact

5.1.1 The Engineering Programs Supervisor is the focal point for implementation, control, and interpretations of this program. The controlling administrative references for this Manual are NEP-301, "Control of ASME Section XI and ASME OM Code Inspection, Examination, and Testing Program Plans, Manuals, and Reports", CP-213, "Preparation of a Safety Assessment and Unreviewed Safety Question Determination" and AI-701, "Administration of the ASME Section XI and ASME OM Code Inservice Inspection, Examination and Testing Programs".

## 5.2 Relief Requests

As of the time of approval, no requests for relief have been submitted for NRC approval.

## 5.3 Code Cases

5.3.1 Code Cases approved for use by the NRC are listed in Regulatory Guide 1.147, for ASME Section XI and 1.192 for the OM Code, including applicable restrictions. Code Cases not listed in Regulatory Guide 1.147 or 1.192 require a relief request for implementation. Code Case OMN-13 is approved for use and listed in Regulatory Guide 1.192.

## 5.4 Manual Revisions and Approvals

5.4.1 The Snubber Inspection Program Manual shall be revised as necessary following applicable changes to Technical Specifications, or plant modifications. If the proposed revision to the program conflicts with Technical Specifications, an approved License Amendment shall be obtained amending Technical Specifications.

5.4.2 All proposed revisions to the Snubber Program Manual must be reviewed to ensure there are no conflicts between the proposed change and Surveillance Procedures, SP-200, "Functional Testing of Hydraulic Snubbers", SP-201, "Hydraulic Snubber Visual Inspection", SP-208, Visual Examination of Component Supports and Maintenance Procedure MP-400, "Barker/Diacon 130 Kip Bench Tester Model S-4000 Upgrades".

5.4.3 Minor revisions will be marked with vertical bar in the right margin except for editorial and/or typographical corrections, which do not require vertical bars. Major revisions do not require vertical revision bars, however, a description of the changes incorporated by the major revision will be provided in the Revision History page, located at the front of this document.

5.4.4 Revisions to the Snubber Inspection and Testing Program Manual must be approved by the Engineering Programs Supervisor.

5.4.5 Minor non-intent changes to the Snubber Inspection Program Manual will be approved by the Engineering Programs Supervisor. These changes will be implemented through Interim Changes. A history of changes will be maintained with this manual and will be incorporated into the next revision of the Manual using NEP-301, "Control of ASME Section XI and ASME OM Code Inspection, Examination, and Testing Program Plans, Manuals, and Reports".

## 6.0 PROGRAM DESCRIPTION

### 6.1 General Program Requirements

6.1.1 All hydraulic snubbers will be periodically visually inspected in the As Found condition to determine operability with a frequency based on Table 1 – Snubber Visual Inspection Interval, Section 6.8.1.

6.1.2 A representative sample of snubbers from Attachments 1, 2 and 3 (locations to which the safety related and safety significant code requirements apply) will be selected each refueling outage and functionally tested to verify operability.

6.1.3 Service Life Monitoring of all snubbers will be performed to ensure that no snubbers are left in service beyond their recommended or calculated service life.

6.1.4 Maintenance repair/rebuild and replacement frequency of hydraulic snubber seals will be based on manufacturer recommendations of acceptable service life and/or based on plant specific seal life studies.

6.1.5 As-left visual inspections will be performed per applicable code/procedural requirements for snubber installations (pre-service) and re-installations (maintenance / testing).

6.1.6 Augmented Scopes – visual examination and functional testing may be performed as necessary.

6.1.7 Non-Safety Population - The locations listed in Attachment 4 of this manual, are those identified as Non-Safety related. This population does not require inspection or testing, however they are usually visually inspected every other refueling outage. Functional testing of these snubbers may be performed as determined necessary.

### 6.2 Plant Operational Requirements

6.2.1 All safety related and safety significant snubbers, as defined in Attachments 1, 2 and 3 shall be operable during plant MODES 1, 2, 3, and 4 and in MODES 5 and 6 for snubbers located on systems required to be operable.

6.2.2 Snubbers can be categorized by their design function and as supporting one or two trains of a system. Snubber design function can be considered as reacting to only seismic loads, reacting to only non-seismic loads (e.g. thrust loads, blowdown loads, waterhammer loads, LOCA loads), and as reacting to both seismic and non-seismic loads.

1. If the design function of the snubber is to react to only seismic loads, LCO 3.0.8 may be applied.

2. If the design function of the snubber includes both seismic loads and nonseismic loads (e.g., thrust loads, blowdown loads, waterhammer loads,

steamhammer loads, LOCA loads, and pipe rupture loads), any TS systems supported by the nonfunctional snubber must be able to remain OPERABLE if subjected to the non-seismic loads with the snubber removed. If the supported TS system will remain OPERABLE when subjected to non-seismic loads, LCO 3.0.8 may be applied. Otherwise, LCO 3.0.8 may not be applied to TS systems supported by the nonfunctional snubber.

3. If the design function of the snubber includes only non-seismic loads (e.g., thrust loads, blowdown loads, waterhammer loads, steamhammer loads, LOCA loads, and pipe rupture loads), LCO 3.0.8 cannot be applied to the TS systems supported by the nonfunctional snubber. However, if it can be confirmed that snubber is not needed for OPERABILITY of the TS system, LCO 3.0.8 is not needed.

6.2.3 LCO 3.0.8: When one or more required snubbers are unable to perform their associated support function(s), any affected supported LCO(s) are not required to be declared not met solely for this reason if risk is assessed and managed, and:

a. the snubbers not able to perform their associated support function(s) are associated with only one train or subsystem of a multiple train or subsystem supported system or are associated with a single train or subsystem supported system and are able to perform their associated support function within 72 hours; or

b. the snubbers not able to perform their associated support function(s) are associated with more than one train or subsystem of a multiple train or subsystem supported system and are able to perform their associated support function within 12 hours.

At the end of the specified period the required snubbers must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met.

6.2.4 Attachment 11 lists all of the snubbers, their design function and the applicability of LCO 3.0.8.

## 6.3 Snubber Classification

6.3.1 The snubbers detailed in this program have been selected in accordance with their installed location, related system safety significance and design criteria, and classified as Safety Related, Safety Significant, or Non-Safety Related.

6.3.2 Factors considered in snubber categorizations are accessibility during reactor operations, manufacturers design characteristics and operating environment.

6.3.2.1 All snubbers have been categorized as Accessible or Inaccessible based on the above criteria (typically inaccessible snubbers are in the containment building). These test categories may be tested together or independently.

The decision to examine snubbers as one population or as separate categories shall be made and documented before the scheduled interval examinations begin and shall not be changed during the examinations.

6.3.3 Factors considered when establishing snubber types and grouping, are manufacturer, design characteristics and design application

6.3.3.1 All snubbers within these Accessible or Inaccessible categories have been grouped as Small Bore, Medium Bore, Large Bore, and Non Safety Related snubbers. Additional snubbers not installed within the plant during operation are identified as Spares.

## 6.4 Snubber and location Identifiers

6.4.1 A list of individual snubber locations and related systems with detailed information of the location and installed snubber design characteristics are listed in Attachment 5. Detailed unique identifiers have been assigned to both snubbers and locations.

6.4.1.1 Locations are identified by both the plant Tag/Mark Number and Exam Number:

a. Tag/Mark Number - Identifies the System and unique Hanger Number. (i.e., FWH-139)

b. Exam Number provides compatibility with the "SnubbWorks" computer tracking system and is a unique set of 5 fields for identifying locations (i.e., 11313):

c. First Digit - (10000) Accessible, (20000) Inaccessible. (i.e., **1**1313):

d. Second Digit - (01000) Safety Related/Safety Significant, (02000) Non-Safety Related. (i.e., 1**1**313):

e. Third Digit - (00100) Reactor Building (RB), (00200) Reactor Building (RB-2), (00300) Intermediate Building, (00400) Auxiliary Building, (00500) Turbine Building. (i.e., 11**3**13):

f. Fourth and Fifth Digit for individual location number. (i.e., 113**13**):

6.4.1.2 Snubbers are identified by both the manufacturers Serial Number and a specific Component Number:

a. Serial Number - design/manufacturers unique number.(i.e., 740051):

b. Component Number - provides compatibility with the "SnubbWorks" computer tracking system and is a unique set of 6 fields for identifying snubbers .(i.e., H13038):

c. First character - (H) Hydraulic.(i.e., H13038):

d. First Digit - (10000) Small Bore, (20000) Medium Bore, (30000) Large Bore. .(i.e., H13038):

a Second Digit - (01000): PP 1.5" Dia. / Lisega 3018, (02000): PP 2" Dia. / Lisega 3038 or 3042, (03000): PP 2.5" Dia. / Lisega 3052, (04000): PP 4" Dia. / Lisega 3062, (05000): PP 5" Dia. / Lisega 3072, (06000): Lisega 3082 or 3082-DR, (07000): Lisega 3092, (08000): TBD, (09000): PM 14" Dia. .(i.e., H13038):

e. Third, Fourth and Fifth Digit for individual snubber number. (i.e., H13**038**)

## 6.5 General Test Program Requirements

6.5.1 Examinations and tests of snubbers are typically performed during plant outages but may be performed during normal system operations, as applicable, and shall be conducted by implementing the requirements of this program using approved Crystal River Unit 3 procedures as detailed in references, Section 3.0.

6.5.2 Snubbers shall not be subjected to prior preventive and/or corrective maintenance (pre-conditioning) specifically for the purpose of meeting the applicable examination or testing requirements.

6.5.2.1 Snubbers that are maintained or repaired by removing or adjusting a snubber part, that can affect the results of the applicable tests required by this program, shall be examined and tested in accordance with the applicable requirements before returning to service. Additionally, the applicable installation requirements shall be met. The requirements selected shall ensure that the parameters that may have been affected are verified to be acceptable by suitable examination and tests.

6.5.3 Work planning and preparation should begin well in advance of the scheduled work scope to determine any specific issues to be addressed. Initial planning requirements should include the following:

6.5.3.1 Allow time to inspect / test spare snubbers, review spare parts inventories and review data sheets from previous performances of snubber testing.

6.5.3.2 Perform a review for previous functional test failures and failed snubber locations that will require the past failed snubber and location to be re-tested in the upcoming work scope.

6.5.3.3 Snubbers requiring service life monitoring and seal replacement.

6.5.3.4 Recurring visual inspection deficiencies and test failures.

6.5.3.5 Visual As-found examination requirements for the outage/work scope.

6.5.3.6 Preparation of each required test program, snubber listing, each test / inspection scope, exam instructions and required paperwork.

6.5.3.7 Functional test samples for each snubber subgroup should be selected in accordance with this program plan. A separate plan is required for Large Bore Hydraulic snubbers since they are functionally tested in place.

6.5.3.8 A review of the "SnubbWorks" database and past test activities should be conducted to determine scaffolding and other inspection restraints. Such restraints should be noted on any required Work Orders for the selected snubbers.

6.5.3.9 Coordination with Scheduling, Maintenance and Radiation Protection to preplan for each work scope to be performed.

6.5.4 All examination/test results shall be documented on the appropriate forms and all copies of examinations and test results shall be sent to the Snubber Program Manager for applicable evaluations and reviews.

## 6.6 Preservice Program Requirements

6.6.1 New snubber locations shall only be added, or existing locations permanently removed from the Snubber Program in accordance with the Engineering Change process and applicable implementing procedures.

6.6.2 All new snubber installations shall receive a preservice operability test and visual examination. For new snubbers, copies of the manufacturers functional test results may be used.

6.6.3 Upon completion of removal and subsequent replacement of any snubber for required maintenance / functional test work scope, an As-Left preservice visual inspection is required to verify correct installation criteria. This visual examination for safety related snubbers may be supplemented or replaced by an ISI VT-3 visual examination to satisfy any repair / replacement requirements of the program. This determination for ASME VT-3 as-Left examination requirements for all applicable locations shall be made by Snubber Program Manager.

6.6.4 After installation, the Preservice Operability Visual examination shall be performed in accordance with the applicable visual Inspection procedures to verify the following:

6.6.4.1 No visible signs of damage or impaired operability exist as a result of storage, handling or installation.

6.6.4.2 Snubber load rating, location, orientation, position setting and configuration (e.g., attachments and extensions) are in accordance with design drawings and specifications. Installation records (based on physical examinations) of

verification that the snubbers were installed according to the design drawings and specification shall be acceptable in meeting this requirement.

6.6.4.3 Adequate swing clearances is provided to allow snubber movement;

6.6.4.4 If applicable, fluid is at the recommended level, and fluid is not leaking from the snubber system; and ;

6.6.4.5 Structural connections, such as pins, bearings, fasteners, lock nuts, tabs, wires and cotter pins, are installed correctly;

6.6.5 Snubbers that are installed incorrectly or otherwise do not meet the requirements of 6.6.4 shall be corrected, adjusted, repaired or replaced and reexamined.

6.6.6 The Preservice Operability Functional Testing shall be performed on all snubbers prior to installation either at the manufacturer's or owner facility and as applicable verify the following:

6.6.6.1 The force that will initiate motion (breakaway force), the force that will maintain low velocity displacement (drag force), or both as required per procedural requirements are within specified limits both in tension and compression.

6.6.6.2 Activation is within the specified range of velocity or acceleration in both tension and compression.

6.6.6.3 Release rate is within the specified range in tension and compression. For units specifically required not to displace under continuous load, the ability of the snubber to withstand load without displacement shall be demonstrated.

6.6.7 Snubbers shall be tested at a load sufficient to verify the operating parameters specified in 6.6.6.

6.6.8 Snubbers that fail the preservice operability test shall be evaluated for the cause(s) of failure(s). If a design deficiency in the snubber is found, it shall be corrected. Modified, repaired, or replacement snubbers shall be retested in accordance with 6.6.6.

## 6.7 Preservice and In-Service Procedural Requirements

6.7.1 Procedures and associated datasheets shall meet the examination and testing requirements as outlined in this program and be structured in accordance with the applicable Crystal River Unit 3 Administrative procedures.

## 6.8 In-Service Program Requirements

6.8.1 Scope and Frequency of Visual Operability (As Found) Inspections:

Code Case OMN-13 establishes specific requirements that must be met in order to allow extension of the visual interval beyond the maximum interval allowed in Table ISTD 4252-1. In RFO16 it was determined that all of the requirements of ISTD 4251, 5252(a), 4252(b), and 4252(c) had been met and the previous examination in R15 was performed at the maximum interval of two fuel cycles per Table ISTD-4252-1. The initiating requirements for the use of Code Case OMN-13 had been met the interval prior to R16, so the Code Case OMN-13 is being adopted for use.

6.8.1.1 The frequency for the visual examination of all safety related / safety significant snubbers are at least once every 10 years.

6.8.2 Visual Operability (As Found) Examination Requirements:

The Visual As-Found examination for safety related / safety significant snubbers shall be performed before the snubber is disconnected or removed for maintenance or functional testing and extends, as a minimum, from pin to pin connection. This examination is to determine that there are no visible indications of damage or impaired functional ability due to physical damage, leakage, corrosion, or degradation from environmental exposure or operating conditions.

6.8.2.1 The visual inspection and subsequent evaluation should verify that the snubber installation will meet all of the following requirements:

a. **Restrained Movement**. Snubbers will be installed such that when activated they are capable of restraining abnormal movement.

b. **Thermal Movement** Installed snubbers will not restrict thermal movement to the extent that unacceptable overstressing could develop in the pipe or other equipment that the snubber is designed to protect or restrain.

c. **Pass Design-Specific Observations** Snubbers will be free of defects that may be generic to particular designs as may be detected by visual examination.

d. **Special Features Required for The Actuation of The Snubber**. Fluid supply or content shall be observed. Observation that the fluid level is equal to or greater than the minimum amount which is sufficient for actuation at its operating extension is considered to satisfy the provisions of this requirement.

6.8.2.2 Any unacceptable/unsatisfactory or degraded snubber condition reported on the applicable inspection report sheet, or any noted anomaly identified during the current examination period, shall have an evaluation performed by an individual knowledgeable in snubber operability requirements.

6.8.2.3 Evaluations shall be performed to determine the type and cause of the visual examination discrepancy, the effect on the operability of the snubber and related component(s) and any relationship to other snubbers that may have the same failure characteristics. These evaluations may include: determination of operability by analysis, detailed re-inspection, manually induced snubber movement (hand stroking), evaluation of in-place snubber piston settings/movements, or removal and functional testing to determine operability.

6.8.2.4 Snubbers which appear inoperable as a result of visual inspections, and have been classified as unacceptable/unsatisfactory; may be reclassified as acceptable/satisfactory, provided that:

a. An engineering evaluation is performed with the cause of the rejection being clearly established and remedied for that particular snubber and for other snubbers irrespective of type on that system that may be generically susceptible; **and/or**

b. The affected snubber is functionally tested in the as found condition and determined operable per the testing requirements. For tests determining operability due to low fluid, the initial test shall start with the piston at the as-found setting and be performed in the extension (tension) direction. .

6.8.2.5 If an evaluation/analysis determines that a visual examination discrepancy does not affect the operability of the snubber, and the condition is either generic or an isolated case, a Work Request for Corrective Maintenance may be issued to correct any discrepancies found during the visual examination.

6.8.2.6 The visual examination scope is considered complete after completing all visual examinations, failure evaluation/corrective actions and dispositions.

6.8.3 Augmented Visual Examinations:

6.8.3.1 An augmented scope is invoked whenever a visual examination is to be performed as a supplemental scope, outside of the code requirements of this program, or is for Non Safety related snubbers.

6.8.3.2 The visual examination acceptance criteria for Non Safety related snubbers is identified in PM-111, titled "Check of Hydraulic Pipe Snubbers" and is to be used in the visual inspection of these snubbers to determine that there are no visible indications of damage or impaired operability.

6.8.3.3 Snubbers may be selected as a whole population, defined group, be based on environmental conditions or selected based on preventative maintenance activities and then inspected, as applicable, in conjunction with the requirements of 6.8.1 or as a separate work scope.

6.8.3.4 Any unacceptable/unsatisfactory or degraded snubber condition reported on the applicable inspection/test report sheet, or any noted anomaly identified during the current examination period, shall have an evaluation performed by an individual knowledgeable in snubber operability requirements. This evaluation shall be performed to determine the type and cause of the visual examination discrepancy and effect on the operability of the snubber and related component(s). If the condition is determined, as generic, then additional examinations may be required, or if an isolated case, a Work Request may be issued to correct any discrepancies found.

6.8.3.5 The results of these examinations do not impact the visual examination frequency of the Safety Related / Safety Significant inspection program.

6.8.4 VT-3 ASME Section XI Examination of Snubbers

6.8.4.1 As part of the ASME Section XI, Subsection IWF program plan, defined in the ISI Component and Structures Examination Program, various Safety Related snubber(s) require an additional visual inspection outside of the As-Found Visual snubber pin to pin requirement of the ASME OM Code. These snubber(s) shall be identified by the ISI Program Manager and defined in the snubber program work scope prior to scheduling, so that the applicable snubber(s) can be inspected to any additional requirements.

6.8.4.2 The Visual VT-3 examination criterion for ASME Section XI, Safety Related snubbers is to determine that there are no visible indications of damage or impaired operability, and that fasteners for the attachment of the snubber to the piping system and to the associated building structure are functional. This additional visual VT-3 inspection criteria for safety related snubbers is further defined by the ASME Section XI Code, as follows:

a. Preservice and Inservice examinations shall be performed to determine the general mechanical and structural conditions of components and supports.

b. The VT-3 visual examination may require, as applicable, determination of structural integrity, the measurement of clearances, detection of physical displacement, structural adequacy of supporting elements and connections between load carrying structural members.

6.8.4.3 When the ASME Section XI, ISI VT-3 visual inspection is to be performed during a refueling outage, it shall be performed before the snubber is disconnected or removed for maintenance or functional testing. The visual As Found examination and VT-3 requirements may be performed as separate scopes or performed as one at the same time, as long as the more stringent, applicable procedural requirements are met.

6.8.4.4 The results of these examinations, if performed as a separate scope, shall be evaluated independently and do not affect the visual examination frequency

of the Safety Related / Safety Significant As-Found Visual program. If performed in conjunction with the Safety Related / Safety Significant As Found Visual program, the inspection results will be evaluated in accordance with 6.8.1 & 6.8.2, as applicable.

6.8.4.5 Upon completion of removal and subsequent replacement of any snubber for required maintenance / functional test work scope, an As Left preservice visual inspection is required to verify correct installation criteria. This ISI VT-3 visual examination for safety related snubbers is required to satisfy any repair / replacement code requirements of the program. This determination for ASME VT-3 As-Left examination requirements for all applicable locations shall be made by the ISI Program Manager.

6.8.5 Functional Operability Testing:

6.8.5.1 During each refueling outage a representative sample of snubbers shall be functionally tested according to the schedule determined by this program, to verify in-service operability performance. Snubber testing activities may begin no earlier than 60 days prior to the start of a scheduled refueling outage and completed prior to plant start-up from the refueling outage.

6.8.5.2 Snubbers shall be tested in their As Found condition, to the fullest extent practicable, with regard to the required test parameters and test methods and removal procedures, which shall not alter the condition of a snubber to the extent that the results do not represent the As Found snubber condition.

6.8.5.3 Snubbers may be removed or tested in their installed location by using CR3 approved test methods and equipment. Snubbers may be tested using an "in-situ" test machine (in place testing) or a bench-type machine.

a. Bench-type testing of the snubber is performed by securing the snubber at both ends and as such, requires the complete removal of the snubber from a plant location.

b. "In-situ" testing of a hydraulic snubber follows the principle of pressuring fluid inside the snubber cylinder to perform various functional tests to determine lock-up velocities, bleed rates, and seal integrity. Using this technique, a snubber can be tested in-place without completely removing the snubber.

6.8.5.4 An As Found visual inspection for operability shall be performed prior to the snubber being disconnected or removed for functional testing and the results recorded on the appropriate visual examination data sheet.

6.8.5.5 A representative sample from each Design Test Plan Group (DTPG) population shall be selected randomly, as far as practical, based on the significant features (i.e. various designs, configurations, operating environments, sizes, and capacities) and based on the ratio of the number of

snubbers of each significant feature, to the total number of snubbers in the DTPG. Selection shall be generally representative of the above, but may also be selected from snubbers concurrently scheduled for seal replacement or other similar activity related to periodic maintenance or service life monitoring. The snubbers shall be tested, on a generally rotational basis to coincide with the service life monitoring activity.

6.8.5.6 The sample plan (10% or 37 plan) shall be selected prior to the test period, changes can be made to this initial sample plan before testing begins, and then not changed during the test period. For each Safety Related/Safety Significant snubber found to be unacceptable/unsatisfactory by operability testing, an additional sample lot of at least one-half the size of the initial sample from that DTPG is required to be tested and the applicable corrective action(s) taken.

6.8.5.7 When selecting a snubber that is part of a tandem installation (parallel or multiple) even though they are identified and counted individually, the mate of that snubber may also be selected and credited toward the total number of snubbers required by any sampling plan. If a tandem snubber is deleted from the list, its mate may also be deleted.

6.8.5.8 An Augmented Test Scope shall also be identified. This mandatory Augmented Test Scope shall be comprised of snubbers in a location that had failed during the previous functional test cycle, and individual snubbers, if relocated to other locations, which had failed during the previous functional test cycle. These shall be re-tested in this augmented test scope, unless the cause of the failure has been clearly established and corrected. Functional testing failure of any of these snubbers within this augmented test scope does not cause an increase in the sample size as these additional tests are outside of the surveillance requirements and identified as an augmented scope.

6.8.5.9 An Augmented Functional Scope for Safety Related/Safety Significant snubbers may be selected for Service Life Monitoring activities as well as Non Safety Related snubbers selected and tested to satisfy good engineering practice and provide assurance of structural reliability. Any augmented functional scope for these snubbers shall be independent of the requirements for Safety Related / Safety Significant mandatory DTPG Test Plan snubbers and the results shall not affect the Safety Related program. Instead, results shall be evaluated on an individual basis and any corrective actions taken applied, as applicable, only to this separate scope.

6.8.5.10 Replacement snubbers and snubbers that have repairs which might affect the operational readiness of the snubber, shall be tested to meet the functional test requirements before installation

6.8.6 Functional Testing Sample Plans:

6.8.6.1 Testing will be conducted for each defined test plan group (DTPG) using the following, as applicable, where at least 10% of the total of each group/type of snubber population (fractional numbers will be rounded up) shall be functionally tested either in-place or in a bench test.

a. The representative sample selected for the initial functional test will be randomly selected from the DTPG and reviewed before beginning the testing. This review will ensure as far as practical, that they are representative of the various designs, configurations, operating environments, range of size, and capacity of snubbers.

b. Snubbers attached to the reactor coolant pumps (RCP's) shall be one separate DTPG.

c. All snubbers subject to the functional test requirements are as detailed:

Accessible Safety Related/Safety Significant snubbers

| Installed Population | Group |
|---|---|
| 84 | Small Bore |
| 16 | Medium Bore |

Inaccessible Safety Related/Safety Significant snubbers

| Installed Population | Group |
|---|---|
| 81 | Small Bore |
| 22 | Medium Bore |
| 4 | Large Bore |

6.8.7 Functional Operability Test Acceptance Criteria:

6.8.7.1 The snubber functional test shall verify, as applicable, that:

a. The force that will initiate motion (breakaway force), the force that will maintain low velocity displacement (drag force), or both as required per procedural requirements are within specified limits both in tension and compression..

b. Activation is within the specified range of velocity or acceleration in both tension and compression.

c. Release rate is within the specified range in tension and compression. For units specifically required not to displace under continuous load, the ability of the snubber to withstand load without displacement shall be demonstrated.

6.8.7.2 Snubbers shall be tested at a load sufficient to verify the operating parameters specified in 6.8.7.1

6.8.7.3 Qualitative testing may be used in lieu of quantitative testing in meeting the requirements of 6.8.7.1 provided sufficient data, based upon service history or life cycle testing is available to justify the ability of the parameter in question to be within specifications over the life of the snubber (e.g., demonstration that activation takes place without measurement of the activation level). A test report verifying that the parameter was within specifications shall be available for each snubber exempted from an in-service quantitative functional test requirement.

6.8.7.4 When snubber size, test equipment limitations, or inaccessibility prevents use of bench or in place snubber test methods, snubber sub-components that control the parameters to be verified shall be examined and tested in accordance with approved test methods. Re-assembly shall be in accordance with approved procedures.

a. Testing methods may be used to measure parameters indirectly or parameters other than those specified if those results can be correlated to the specified parameters through established methods.

b. Correlation of Indirect Measurements: When test methods are used that either measure parameters indirectly, or measure parameters other than those specified, the results shall be correlated with specified parameters through established methods.

6.8.7.5 Snubbers that fail the functional test acceptance criteria shall be repaired or replaced. Snubbers that have repairs shall be tested to meet the functional test criteria before installation.

6.8.8 Functional Test Failure Analysis

6.8.8.1 Snubbers that do not meet the acceptance criteria for functional testing shall be evaluated to determine the cause of the failure to determine corrective actions.

a. Hydraulic snubbers typically fail due to loss of fluid, which results in no restraining action. This is referred to as failing soft. Snubbers may also fail due to loss of bleed capacity. This will only be evident if the snubber has been activated.

b. Sometimes the cause of an inoperable snubber condition can be determined by external examination, such as a loose tubing connection or the existence of paint on moving parts. Visual examinations and measurements, coupled with the knowledge of snubber operational details, are usually sufficient to determine the cause of the failure.

c. However, in some cases, the snubber will require disassembly to determine the cause of failure and whether a part broke from an overload or fatigue, or broke in tension or compression, etc. Additional investigation is usually required to determine what caused this defect to develop. Such root causes may be improper maintenance, improper design or operation under excessive vibration from the attached component.

6.8.8.2 For the snubbers found inoperable, an engineering evaluation shall also be performed on the components to which the inoperable snubbers are attached. The purpose of this engineering evaluation is to determine if the components to which the inoperable snubbers are attached were adversely affected by the in-operability of the snubbers in order to ensure that the component remains capable of meeting the designed service.

6.8.8.3 For each snubber of an initial sample group/type that does not meet the functional test acceptance criteria, an additional sample of at least one-half the size of the initial sample lot shall be tested.

6.8.9 Additional Samples / Failure Mode Groups

6.8.9.1 After determination by an engineering evaluation, that a snubber is unacceptable/unsatisfactory an additional sample of at least one-half the size of the initial sample lot shall be tested.

The unacceptable/unsatisfactory snubber may be categorized into an examination / testing failure mode group (FMG). A failure mode group shall include all unacceptable snubbers that have a given failure and all other snubbers evaluated to be subject to the same failure (except snubbers in a separate examination category). The failure mode groups shall be separate and distinct for each examination and testing work scope.

The following failure mode groups shall be used:

a. Unexplained

b. Isolated

c. Design or manufacturing and Application-Induced

d. Design or manufacturing and Maintenance, repair, or installation and Application-Induced

e. Transient Dynamic Event

6.8.9.2 Once a failure mode group has been established, any snubber(s) identified in that failure mode group may be separated for continued examination / testing from the original work scope. The new defined and independent failure mode group will remain until the applicable corrective action has been completed.

6.8.9.3 In the event a snubber(s) is included in more than one failure mode group, it shall be counted in each, and subject to the schedule, subsequent schedule and corrective action of each test failure mode group.

6.8.9.4 Unexplained Failure. All unacceptable snubbers in this failure mode group shall be replaced/repaired to an acceptable condition and additional samples tested as determined in 6.8.9.9 below.

6.8.9.5 Isolated Failure Mode. All unacceptable snubbers in this failure mode group shall be replaced/repaired to an acceptable condition and re-categorized as acceptable for examination/testing frequency purposes. Additional test are not required for an isolated failure.

6.8.9.6 Design or Manufacturing and Application-Induced Failure Mode. The following corrective actions shall apply:

a. All snubbers in the failure mode group shall be replaced or modified. The replacement/modified snubbers shall be reclassified as acceptable and the applicable reexamination performed; OR

b. All unacceptable snubbers in the failure mode group shall be replaced or repaired to an acceptable condition and the environment or applications shall be made compatible with the design parameters for all snubbers in this FMG.

No additional testing is required provided the above corrective actions have been taken.

6.8.9.7 Design or Manufacturing: Maintenance, Repair, or Installation; and Application-Induced Failure Mode. When the corrective actions of 6.8.9.6.a or b. above are not applicable, or are not taken, then additional samples in the FMG shall be taken until the mathematical formula of 6.8.11.1 is satisfied or all the snubbers in the FMG have been tested.

6.8.9.8 Transient Dynamic Event Failure Mode Group. Although additional samples of this FMG are not required, the operational readiness of all snubbers in this FMG shall be evaluated by stroking or testing. All operationally ready snubbers in this FMG shall be eligible for selection and testing for other appropriate FMGs and the DTPG.

6.8.9.9 When an unacceptable/unsatisfactory snubber has not been assigned to an FMG, the additional sample shall be taken from the DTPG. As practical, the additional sample shall include the following:

a. Snubbers of the same manufacturer's design.

b. Snubbers from the same system including those snubbers immediately adjacent to the unacceptable snubbers.

c. Other piping systems having the same operating conditions such as temperature, humidity, vibration and radiation.

d. Snubbers which are previously untested.

6.8.9.10 Deletions of Unacceptable Snubbers. Snubbers may be deleted based on analysis of the affected piping system. When an unacceptable snubber is deleted, the deleted snubber shall continue to be considered in its respective examination population, examination category, or failure mode group for determining the corrective action.

6.8.10 Transient Dynamic Event

6.8.10.1 If a transient dynamic event (e.g. water hammer, steam hammer, etc.) is determined to have occurred, that may have affected snubber operability, then the affected snubbers and systems shall be reviewed and any appropriate actions taken. Any actions taken shall be considered independent of the in-service visual examination inspection plan.

6.8.10.2 Potential actions included visual examination of the snubbers and freedom of motion verification by one of the following:

a. Manually induced snubber movement, or

b. Evaluation of in-place snubber piston settings, or

c. Stroking the snubber through its full range of travel, or

d. Functional testing of the snubber.

6.8.10.3 Any unacceptable/unsatisfactory or degraded snubber condition reported on the applicable inspection / test report sheet, or any identified anomaly resulting from this supplemental scope, shall have an evaluation / failure analysis performed by an ISI/Engineering individual knowledgeable in snubber operability requirements. This evaluation shall be performed to determine the type and cause of the visual examination discrepancy, effect on the operability of the snubber and related component(s) and any required corrective actions.

6.8.11 Test Plan Completion

6.8.11.1 Testing shall be considered complete when the mathematical expressions below are satisfied for each DTPG or FMG or all snubbers in the DTPG or FMG have been tested.

For each DTPG

$$N \geq 0.1n + C(0.1n/2)$$

Where

N = total number of snubbers tested that were selected from the DTPG
n= number of snubbers in the DTPG
C= total number of unacceptable snubbers found in the DTPG (excluding those counted for FMG tests)

For each FMG

$$N_f \geq C_f(0.1n/2)$$

Where

$N_f$ = all snubbers selected and tested from the FMG after the FMG was established from the DTPG
$C_f$= total number of unacceptable snubbers in the FMG, plus those found in the DTPG and used to establish the
n= number of snubbers in the DTPG

6.8.12 Snubber Service Life Monitoring / Replacement Program:

6.8.12.1 The object of service life monitoring is to identify service environment conditions and maintenance functions (rebuilds, handling, and replacements) that can adversely affect snubber performance. Service life varies with manufacturer recommendations, design limits, actual conditions and materials, and should be adjusted based on plant experience and trending to ensure that the snubber(s) periodically undergo a performance evaluation.

6.8.12.2 The maximum expected service life for various seals, springs, and other critical parts shall be extended or shortened based on monitored test results and failure history. Critical parts shall be replaced so that the maximum service life will not be exceeded during a period when the snubber is required to be operable.

6.8.12.3 The performance of snubbers is indicated by the results of functional tests. Tracking and trending snubber performance may be required relating to snubbers installed in the same location and for snubbers that failed previous outage tests, due to location variables or unknown causes. When the same snubber has been tested several times, its test results may be reviewed to determine whether a trend is developing or if the snubber test values are degrading.

a. Activation, bleed rate and drag are parameters available for trending hydraulic snubber performance. The results of the next functional test can be compared to the last test to determine if a drift of parameter values has occurred. If the drift is within acceptance limits, the snubber may be determined to be degraded or acceptable for continued use without the need for rebuild or replacement.

b. Since the Paul Munroe manufactured snubbers located on the Reactor Coolant Pumps are equipped with seals in the critical load bearing areas, the control valves are the primary areas of investigation. One of the primary problems associated with this type of seal configuration is static leakage over the life of the snubber due to inactivity of the snubber. This can be trended through the performed visual inspections and resolved for spare snubbers, by visual inspection or functional stroking on a scheduled frequency.

c. The static and dynamic seals, moving parts and fluid in a hydraulic snubber are subject to wear or other degradation. The piston, piston rod, cylinder and glands are also subject to wear. These and other parts should be examined carefully each time seals are replaced or each time replacements are made to prevent leakage or other conditions of in-operability before the next snubber rebuild.

d. Hydraulic fluid, if reused, should be checked at rebuild time for moisture content and particulate to determine whether the fluid should be filtered to bring it back into specification or disposed.

6.8.12.4 A record of the service life of each snubber in the program shall be maintained. The snubber service life record shall include manufacturer, model, serial number, present plant location and installation service life end date for each applicable snubber. When snubbers are rebuilt or overhauled, the service life shall be updated which will provide future statistical bases for consideration of snubber service life.

6.8.12.5 Service life for snubbers shall be evaluated at least once each fuel cycle and adjustments made as warranted. The service life shall be reviewed and necessary actions taken to ensure that the service life of all installed snubbers will not be exceeded during the next operating cycle.

6.8.13 Maintenance

6.8.13.1 Any maintenance function which could affect the operability of a snubber shall be conducted using Crystal River Unit 3 approved Maintenance Procedures. In addition, small and medium bore snubbers will be functionally tested per Maintenance Procedure MP-400, "Barker/Diacon 130 Kip Bench Tester Model S-4000 Upgrades" after any maintenance function which could affect operability.

6.8.13.2 Snubber Seal Life and Replacement

a. All Paul Monroe Large Bore snubbers at CR3 have a forty (40) year seal life for main seals with the manufacturer recommending changing these seals only if a seal is damaged or leaks. Additionally all large bore snubbers have an eight and a half (8.5) year seal life for secondary seals. (Ref. 3.7)

b. All Power Piping Small Bore and Medium Bore snubbers have a seal life of fourteen (14) to twenty-two (22) years based on location as determined by actual seal life study. (Ref. 3.7)

c. All Lisega Small Bore and Medium Bore snubbers have a manufacturers recommended minimum service life of 21 years without scheduled maintenance.

d. The seal life should be used to determine when all Safety, Safety Significant and Non-Safety related snubber seal replacements are required, at which time snubbers shall be rebuilt and functionality tested using safety related parts, procedures and associated acceptance criteria.

6.8.13.3 Spare Snubbers

a. All snubbers not installed in an active location within the plant are considered spares. Spares shall be rebuilt using safety related parts and functionally tested in accordance with approved procedures and tagged with the date and results of the functional test.

b. Spares may be used in all locations where a snubber of the same manufacturer bore and stroke size, requires a change out.

c. Storage should be in designated areas that provide protection from exposure to airborne and windblown contaminants. When being moved from storage, they should be protected from damage and the possibility of moisture, liquids or other activities that might result in foreign materials entering or damaging the snubber.

6.8.13.4 Replacement or Modified Snubbers

a. Snubbers shall not be adjusted, maintained, or repaired before an examination or test specifically to meet the examination or test requirements.

b. Snubbers that are maintained or repaired by removing or adjusting a snubber part that can affect the results of tests shall be examined and tested with the applicable procedures before returning to service. The

requirements selected shall ensure that the parameters that may have been affected are verified to be acceptable.

c. Replacement or modified snubber(s) shall have a proven suitability for the application and environment and shall be examined and tested in accordance with written procedures and verified to be acceptable.

## 7.0 EQUIPMENT AND PERSONNEL REQUIREMENTS

### 7.1 Instrumentation and Test Equipment

7.1.1 Functional Test Equipment

7.1.1.1 Instrumentation and test equipment used in the examination and testing of snubbers shall have a current calibration sticker and have the range and accuracy necessary to demonstrate conformance to the test requirements as stated in the applicable testing procedures.

7.1.1.2 The test machine presently used at Crystal River Unit 3 is the Anchor Darling / Barker/Diacon 130 Kip Bench Tester Model S-4000 Upgrade. An equivalent approved testing machine is acceptable for the functional preservice and inservice tests provided that it is capable of testing to verify that:

a. Free movement force will initiate motion of the snubber rod in both tension and compression during low velocity displacements, and

b. Activation is achieved within the specified range of velocity or acceleration in both tension and compression, and

c. Snubber bleed or release rate is within the specified range in compression or tension.

### 7.2 Training and Personnel Qualifications

7.2.1 Personnel who are required to witness, perform, and/or evaluate test results will be trained and/or certified, as applicable, in accordance with approved site procedures.

7.2.2 Training is performed to meet CR3 general regulatory requirements, and good engineering practices, as applicable. Briefings shall be conducted prior to any performance of visual inspections and snubber functional tests.

7.2.3 Craft and maintenance personnel involved with snubber related work, are to be qualified in accordance with the applicable test and removal procedures. In addition, personnel performing the functional testing on snubbers using the test machines must be qualified on and with, the operation of the machines, and have a working knowledge of snubber design and test parameters.

7.2.4 Personnel performing snubber evaluations shall be knowledgeable in snubber operability requirements, design, test parameters, failure/degradation mechanisms and maintain a knowledge of current industry events and trends.

7.2.5 Personnel performing visual (VT-1, VT-3) inspections must be qualified and meet the visual acuity requirements of ASME Section XI, IWA-2300.

## 8.0 DATA BASE MANAGEMENT

8.1 The "SnubbWorks" data management system is currently used as a tool to manage and maintain the snubber database at CR3. If required other methods of database management are acceptable in meeting the requirements of this manual.

8.2 The "SnubbWorks" database contains information on all applicable installed and spare snubbers and the associated plant safety, safety significant and non-safety locations for the snubber test program. Any approved user, may access required information by using the applicable unique identifiers, snubber component or serial number, or the location exam or mark / tag number.

8.3 Additional information may also be tracked in the database to aid in work planning and pre-work examination packages. This may include location variables such as scaffolding requirements, radiation conditions, isometric, plan and component drawings, etc.

8.4 At the beginning of an inspection/test cycle a review of the database and past test activities should be conducted to aid in determining the new test scopes.

8.5 In order to build and maintain the test program database, information from the applicable snubber test data sheets should be transferred into "SnubbWorks" to build historical files for each location and individual snubber. When a snubber is replaced, added or deleted from the plant location or is moved from one location to another and a spare snubber put in its place, to maintain program integrity, the database will require updating. During the current work scope all snubber test data sheets should also be transferred to the database on a frequent basis.

8.6 After the test results have been entered, the Snubber Program Manager may use the "SnubbWorks" program to search the data base for any test discrepancies to determine if additional testing is required. A review of applicable test data sheets will also reveal test discrepancies.

8.7 Evaluation Reports (available for SNUG updating and trending), for all snubbers that testing, may be generated and issued from the "SnubbWorks" database. This may, as applicable, be forwarded to the ISI / System Engineer for component / system evaluation. In addition any unusual attributes (i.e. repetitive failures, unusual wear etc.) may also be identified for disposition.

8.8 Various scheduling, work progress and functional and visual test status reports can be generated from "SnubbWorks" to provide the number of outstanding and completed snubber/location tests for the current test cycle.

## 9.0 HANGER AND COMPONENT LOCATION AND REFERENCE LOCATION (MAP) DRAWINGS

9.1 The Hanger and Component Location Drawings contained within this section of the snubber manual identify the hanger/component and their location that are examined under the requirements of this program and the Inservice Inspection (ISI) program. Code boundaries shown on these drawings were obtained from the plant controlled P&ID drawings.

- Hanger and Component drawings, refer to the enclosed index for Class 1, 2 and 3 Hangers and Component Supports.

9.2 Snubber specific Reference Location (MAP) Drawings contained within this section of the snubber manual identifies snubber locations that are examined under the requirements of this program.

- Snubber specific Reference Location (MAP) drawings, refer to the enclosed master index and/or individual Location MAP for snubbers.

| CLASS 1 HANGER DRAWING INDEX | | |
|---|---|---|
| **Drawing** | **Title** | |
| CR3-P-SKH-1.1 | 12" Decay Heat | |
| CR3-P-SKH-.3.1 | 10" & 14" Core Flood (A Train) | |
| CR3-P-SKH-3.2 | 10" & 14" Core Flood (B Train) | |
| CR3-P-SKH-4.1 | 2 1/2" High Pressure Injection (RCP-1A) | |
| CR3-P-SKH-5.1 | 2 1/2" High Pressure Injection (RCP-1B) | |
| CR3-P-SKH-5.2 | 2 1/2" High Pressure Injection (RCP-1B) | |
| CR3-P-SKH-6.1 | 2 1/2" High Pressure Injection (RCP-1C) | |
| CR3-P-SKH-6.2 | 2 1/2" High Pressure Injection (RCP-1C) | |
| CR3-P-SKH-7.1 | 2 1/2" High Pressure Injection (RCP-1D) | |
| CR3-P-SKH-7.2 | 2 1/2" High Pressure Injection (RCP-1D) | |
| CR3-P-SKH-9.1 | 2 1/2" Conn. Pump 2B Suction to Letdown Coolers | |
| CR3-P-SKH-9.2 | 2 1/2" Conn. Pump 2B Suction to Letdown Coolers | |
| CR3-P-SKH-9.3 | 2 1/2" Conn. Pump 2B Suction to Letdown Coolers | |
| CR3-P-SKH-10.1 | MUHE-1A/1B Outlet | |
| CR3-P-SKH-10.2 | MUHE-1C | |
| CR3-P-SKH-10.3 | MUHE-1A, 1B, 1C Outlet | |
| CR3-P-SKH-18.1 | 10" Surge Line | |
| CR3-P-SKH-19.1 | 2 1/2" Pressurizer Spray Line | |
| CR3-P-SKH-20.1 | Reactor Coolant Drain From RCP-1A | |
| CR3-P-SKH-20.2 | Reactor Coolant Drain From RCP-1B | |
| CR3-P-SKH-20.3 | Reactor Coolant Drain From RCP-1C | |
| CR3-P-SK-1AH.12 | Reactor Coolant Pump Constant Support | |

| CLASS 2 HANGER DRAWING INDEX | | |
|---|---|---|
| **Drawing** | **Title** | |
| CR3-P-SKH-101.1 | 24" Main Steam From OTSG "A" to Pen. # 106 | |
| CR3-P-SKH-101.2 | 24" Main Steam From Pen. # 106 to MSV-412 | |
| CR3-P-SKH-101.3 | 24" Main Steam From Pen. # 427 to MSh-559 | |
| CR3-P-SKH-102.1 | 24" Main Steam From OTSG "A" to Pen. # 105 | |
| CR3-P-SKH-102.2 | 24" Main Steam From Pen # 105 to MSV-411 | |
| CR3-P-SKH-103.1 | 24" Main Steam From OTSG "B" to Pen # 107 | |
| CR3-P-SKH-103.2 | 24" Main Steam From Pen # 107 to MSV-414 | |
| CR3-P-SKH-104.1 | 24" Main Steam From OTSG "B" to Pen # 201 | |
| CR3-P-SKH-104.2 | 24" Main Steam From Pen # 201 to MSV-413 | |
| CR3-P-SKH-104.3 | 24" Main Steam From MSH-559 to MSV-128 | |
| CR3-P-SKH-105.1 | Feedwater to OTSG "A" | |
| CR3-P-SKH-105.2 | Feedwater to OTSG "A" | |
| CR3-P-SKH-105.3 | Feedwater to OTSG "A" | |
| CR3-P-SKH-106.1 | Feedwater to OTSG "B" | |
| CR3-P-SKH-106.2 | Feedwater to OTSG "B" | |
| CR3-P-SKH-106.3 | Feedwater to OTSG "B" | |
| CR3-P-SKH-107.1 | Emergency Feedwater to OTSG "A" | |
| CR3-P-SKH-107.2 | Emergency Feedwater to OTSG "A" | |
| CR3-P-SKH-107.3 | Emergency Feedwater to OTSG "A" | |
| CR3-P-SKH-108.1 | Emergency Feedwater to OTSG "B" | |
| CR3-P-SKH-108.2 | Emergency Feedwater to OTSG "B" | |
| CR3-P-SKH-108.3 | Emergency Feedwater to OTSG "B" | |
| CR3-P-SKH-108.4 | Emergency Feedwater to OTSG "B" | |
| CR3-P-SKH-109.1 | 14" Decay Heat (A Train) | |
| CR3-P-SKH-109.2 | 14" Decay Heat (A Train) | |
| CR3-P-SKH-110.1 | 14" Decay Heat (B Train) | |
| CR3-P-SKH-110.2 | 14" Decay Heat (B Train) | |
| CR3-P-SKH-111.1 | 8" Decay Heat | |
| CR3-P-SKH-111.2 | 14" Decay Heat | |
| CR3-P-SKH-112.1 | 10" Decay Heat (A Train) | |
| CR3-P-SKH-112.2 | 10" Decay Heat (A Train) | |
| CR3-P-SKH-112.3 | 10" Decay Heat Inside Reactor Building (A Train) | |
| CR3-P-SKH-113.1 | 10" Decay Heat From DHV-111 To Pump 3B (B Train) | |
| CR3-P-SKH-113.2 | 10" Decay Heat from DHV-111 to Pen. #342 (B Train) | |
| CR3-P-SKH-113.3 | 10" Decay Heat Inside Reactor Building (B Train) | |
| CR3-P-SKH-114.1 | 8" Decay Heat (A/B Train) | |
| CR3-P-SKH-115.1 | 6" Makeup | |
| CR3-P-SKH-115.2 | 6" Makeup | |
| CR3-P-SKH-115.3 | 4" Decay Heat to DHV-11 (Piggy Back mode) | |
| CR3-P-SKH-115.4 | 4" Makeup Suction to MUV-65 | |
| CR3-P-SKH-116.1 | 6" Makeup | |
| CR3-P-SKH-116.2 | 6" Makeup | |
| CR3-P-SKH-116.3 | 4" Decay Heat to DHV-12 (Piggy Back mode) | |

| CLASS 2 HANGER DRAWING INDEX | | |
|---|---|---|
| **Drawing** | **Title** | |
| CR3-P-SKH-117.1 | 14" Core Flood | |
| CR3-P-SKH-118.1 | 14" Core Flood | |
| CR3-P-SKH-119.1 | 5" Makeup | |
| CR3-P-SKH-120.1 | 10" Building Spray to BSP-1A | |
| CR3-P-SKH-120.2 | 10" Building Spray From BSP-1A to Pen # 340 | |
| CR3-P-SKH-121.1 | 10" Building Spray to BSP-1B | |
| CR3-P-SKH-121.2 | 10" Building Spray From BSP-1B to Pen # 341 | |
| CR3-P-SKH-122.1 | 14" Decay Heat From BWST "A" Train | |
| CR3-P-SKH-122.2 | 6" MU Pump Suction From BWST "A" Train | |
| CR3-P-SKH-122.3 | 14" Decay Heat from BWST "B" Train | |
| CR3-P-SKH-122.4 | 6" MU Pump Suction From BWST "B" Train | |
| CR3-P-SKH-123.1 | 4" Makeup Recirc Line | |
| CR3-P-SKH-123.2 | 4" Makeup Recirc Line | |
| CR3-P-SKH-124.1 | 2" Makeup Recirc Line From MUP-1A | |
| CR3-P-SKH-125.1 | 2" Makeup Recirc Line From MUP-1B | |
| CR3-P-SKH-126.1 | 2" Makeup Recirc Line From MUP-1C | |
| CR3-P-SKH-127.1 | 10" Decay Heat from BWST to SFV-13 | |
| CR3-P-SKH-127.2 | 10" Decay Heat from BWST to SFV-13 | |
| CR3-P-SKH-128.1 | 2 1/2" Makeup to RCS | |
| CR3-P-SKH-128.2 | 2 1/2" Makeup to RCS | |
| CR3-P-SKH-128.3 | 2 1/2" Makeup to RCS | |
| CR3-P-SKH-128.4 | 2 1/2" Makeup to RCS | |
| CR3-P-SKH-129.1 | 4" Makeup to MUV-18 | |
| CR3-P-SKH-129.2 | 2 1/2" Makeup to MUV-18 | |
| CR3-P-SKH-129.3 | 4" Makeup to MUV-18 | |
| CR3-P-SKH-129.4 | 4" Makeup to MUV-18 | |
| CR3-P-SKH-129.5 | 2 1/2" Makeup Bypass for MUV-452 | |
| CR3-P-SKH-129.6 | 2 1/2" Makeup Bypass for MUV-452 | |
| CR3-P-SKH-130.1 | 4" Makeup Discharge Header | |
| CR3-P-SKH-130.2 | 3" Makeup From MUP-1C Discharge | |
| CR3-P-SKH-130.3 | 4" High Pressure Injection | |
| CR3-P-SKH-130.4 | 3" Makeup to RC Injection | |
| CR3-P-SKH-130.5 | 3" Makeup to RC Injection | |
| CR3-P-SKH-131.1 | 4" Makeup Header | |
| CR3-P-SKH-131.2 | 3" Makeup From MUP-1B Discharge | |
| CR3-P-SKH-131.3 | 3" Makeup From MUP-1A Discharge | |
| CR3-P-SKH-131.4 | 4" High Pressure Injection | |
| CR3-P-SKH-131.5 | 3" Makeup to RC Injection | |
| CR3-P-SKH-131.6 | 3" Makeup to RC Injection | |
| CR3-P-SKH-132.1 | 3" Makeup Recirc to RB Sump | |
| CR3-P-SKH-132.2 | 3" Makeup Recirc to RB Sump | |
| CR3-P-SKH-132.3 | 3" Makeup Recirc to RB Sump | |
| CR3-P-SKH-132.4 | 3" Makeup Recirc to RB Sump | |
| CR3-P-SKH-133.1 | Nuclear Services (SW) to RB Fan 3A | |

| CLASS 2 HANGER DRAWING INDEX | | |
|---|---|---|
| **Drawing** | **Title** | |
| CR3-P-SKH-133.2 | Nuclear Services (SW) to RB Fan 3A | |
| CR3-P-SKH-133.3 | Nuclear Services (SW) to RB Fan 3A | |
| CR3-P-SKH-134.1 | Nuclear Services (SW) from RB Fan 3A | |
| CR3-P-SKH-134.2 | Nuclear Services (SW) from RB Fan 3A | |
| CR3-P-SKH-134.3 | Nuclear Services (SW) from RB Fan 3A | |
| CR3-P-SKH-135.1 | Nuclear Services (SW) to RB Fan 3B | |
| CR3-P-SKH-135.2 | Nuclear Services (SW) to RB Fan 3B | |
| CR3-P-SKH-136.1 | Nuclear Services (SW) from RB Fan 3B | |
| CR3-P-SKH-136.2 | Nuclear Services (SW) from RB Fan 3B | |
| CR3-P-SKH-137.1 | Nuclear Services (SW) to RB Fan 3C | |
| CR3-P-SKH-137.2 | Nuclear Services (SW) to RB Fan 3C | |
| CR3-P-SKH-137.3 | Nuclear Services (SW) to RB Fan 3C | |
| CR3-P-SKH-138.1 | Nuclear Services (SW) from RB Fan 3C | |
| CR3-P-SKH-138.2 | Nuclear Services (SW) from RB Fan 3C | |
| CR3-P-SKH-138.3 | Nuclear Services (SW) from RB Fan 3C | |

| CLASS 3 HANGER DRAWING INDEX | | |
|---|---|---|
| **Drawing** | **Title** | |
| CR3-P-SKH-201.1 | 8 & 12" Decay Heat | |
| CR3-P-SKH-201.2 | Decay Heat Closed Cycle Cooling | |
| CR3-P-SKH-202.1 | Nuclear Services Closed Cycle Cooling | |
| CR3-P-SKH-202.2 | Nuclear Services Closed Cycle Cooling | |
| CR3-P-SKH-203.1 | Nuclear Services Closed Cycle Cooling | |
| CR3-P-SKH-204.1 | Nuclear Services Closed Cycle Cooling | |
| CR3-P-SKH-205.1 | Nuclear Services Closed Cycle Cooling | |
| CR3-P-SKH-206.1 | Nuclear Services Closed Cycle Cooling | |
| CR3-P-SKH-206.2 | Nuclear Services Closed Cycle Cooling | |
| CR3-P-SKH-207.1 | Nuclear Services Closed Cycle Cooling | |
| CR3-P-SKH-208.1 | Nuclear Services Closed Cycle Cooling | |
| CR3-P-SKH-208.2 | Nuclear Services Closed Cycle Cooling | |
| CR3-P-SKH-209.1 | Nuclear Services Closed Cycle Cooling | |
| CR3-P-SKH-210.1 | Nuclear Services Closed Cycle Cooling | |
| CR3-P-SKH-210.2 | Nuclear Services Closed Cycle Cooling | |
| CR3-P-SKH-210.3 | Nuclear Services Closed Cycle Cooling | |
| CR3-P-SKH-211.1 | Nuclear Services Closed Cycle Cooling | |
| CR3-P-SKH-211.2 | Nuclear Services Closed Cycle Cooling | |
| CR3-P-SKH-212.1 | Chilled Water | |
| CR3-P-SKH-213.1 | Nuclear Services Sea Water | |
| CR3-P-SKH-213.2 | Nuclear Services Sea Water | |
| CR3-P-SKH-214.1 | Nuclear Services Sea Water | |
| CR3-P-SKH-215.1 | Nuclear Services Sea Water | |
| CR3-P-SKH-216.1 | Spent Fuel Cooling | |
| CR3-P-SKH-217.1 | 6" Main Steam to Emergency FW Pump | |
| CR3-P-SKH-217.2 | 6" Main Steam to Emergency FW Pump | |
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| CR3-P-SKH-219.1 | Nuclear Services Decay Heat Sea Water | |
| CR3-P-SKH-220.1 | Nuclear Services Closed Cycle Cooling | |
| CR3-P-SKH-221.1 | Nuclear Services Closed Cycle Cooling | |
| CR3-P-SKH-221.2 | Nuclear Services Closed Cycle Cooling | |
| CR3-P-SKH-222.1 | Nuclear Services Closed Cycle Cooling | |
| CR3-P-SKH-223.1 | 8" Decay Heat | |
| CR3-P-SKH-224.1 | Nuclear Services Closed Cycle Cooling | |
| CR3-P-SKH-225.1 | Spent Fuel Cooling | |
| CR3-P-SKH-226.1 | Nuclear Services Closed Cycle Cooling | |
| CR3-P-SKH-226.2 | Nuclear Services Closed Cycle Cooling | |
| CR3-P-SKH-227.1 | Decay Heat Closed Cycle Cooling | |
| CR3-P-SKH-227.2 | Decay Heat Closed Cycle Cooling | |
| CR3-P-SKH-228.1 | Spent Fuel to Spent Fuel Pumps | |
| CR3-P-SKH-228.2 | Spent Fuel to Spent Fuel Pumps | |
| CR3-P-SKH-229.1 | Decay Heat Closed Cycle Cooling | |
| CR3-P-SKH-229.2 | Decay Heat Closed Cycle Cooling | |

| CLASS 3 HANGER DRAWING INDEX | | |
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| CR3-P-SKH-231.1 | Emergency Feedwater | |
| CR3-P-SKH-232.1 | Emergency Feedwater | |
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| M1 | Layout Reactor Building – Containment Outside the D-Rings Basement Floor Elevation 95'. |
|---|---|

| Location Map | Mark / Tag No | Safety Classification | Building | Elevation | Location |
|---|---|---|---|---|---|
| M1 | DHH-17 | Safety | RB | 110' 6" | O/H (LD) Line W of Sth Stairs D-Ring Wall |
| M1 | DHH-18 | Safety | RB | 110' 6" | E of AHF-1C by lot drain Valve |
| M1 | DHH-23 | Safety | RB | 110' 6" | RB Sump O/H |
| M1 | DHH-25 | Safety | RB | 110' 6" | LD Line in Overhead by S Stairs |
| M1 | DHH-26H | Safety | RB | 110' 6" | LD Line in Overhead by S Stairs |
| M1 | DHH-26V | Safety | RB | 110' 6" | LD Line in Overhead by S Stairs |
| M1 | DHH-27 | Safety | RB | 110' 6" | RB Sump O/H |
| M1 | MSH-567L | Safety | RB | 110' 0" | LD Line by S Stairs on D-Ring Wall |
| M1 | MSH-567U | Safety | RB | 110' 0" | LD Line by S Stairs on D-Ring Wall |
| M1 | MSH-568L | Safety | RB | 110' 0" | ESE of AHF-1C on D-Ring Wall |
| M1 | MSH-568U | Safety | RB | 110' 0" | ESE of AHF-1C on D-Ring Wall |
| M1 | MSH-576L | Safety | RB | 112' 0" | Over Elevator Landing on D-Ring wall |
| M1 | MSH-576U | Safety | RB | 112' 0" | Over Elevator Landing on D-Ring wall |
| M1 | MUH-80 | Safety | RB-2 | 108' 0" | I/S Wall Behind RCP-1D LD |
| M1 | MUH-82 | Safety | RB | 108' 7" | Sump O/H |

| M2 | Layout Reactor Building – Containment Inside the D-Rings Basement Floor Elevation 95'. |
|---|---|

| Location Map | Mark / Tag No | Safety Classification | Building | Elevation | Location |
|---|---|---|---|---|---|
| M2 | CFH-14 | Safety | RB | 110' 6" | On Top of Old LDCR Roof |
| M2 | CFH-15 | Safety | RB-2 | 120' 9" | I/S E Wall by RCP 1A |
| M2 | MUH-51 | Safety | RB-2 | 117' 0" | I/S E Wall by RCP 1A |

| M3 | Layout Reactor Building – Containment Outside the D-Rings Mezzanine Floor Elevation 119'. |
|---|---|

| Location Map | Mark / Tag No | Safety Classification | Building | Elevation | Location |
|---|---|---|---|---|---|
| M3 | FWH-122 | Safety | RB | 131' 0" | O/H Between Elevator/P.H. |
| M3 | FWH-128 | Safety | RB | 146' 0" | Front of AHF 1A / S of A Core Flood Room |
| M3 | MSH-139 | Safety | RB | 133' 0" | Behind the Cavity Cooling Fans |
| M3 | MSH-147 | Safety | RB | 139' 0" | Cavity Cooling Fans in Overhead O/S S Inner wall |
| M3 | MSH-149 | Safety | RB | 123' 0" | Under Mezz Grate |
| M3 | MSH-150 | Safety | RB | 123' 0" | Under Mezz Grate |
| M3 | MSH-164 | Safety | RB | 123' 0" | Under Mezz Grate |
| M3 | MSH-165 | Safety | RB | 123' 0" | Under Mezz Grate Platform at Elevator |
| M3 | RCH-55 | Safety Sig | RB | 123' 9" | O/H Behind Stairs on D-Ring Wall |
| M3 | RCH-58 | Safety Sig | RB | 120" 0" | O/H Behind Stairs on D-Ring Wall |
| M3 | RCH-84 | Safety Sig | RB | 123' 9" | Behind Stairs on D-Ring Wall |
| M3 | RCH-89 | Safety Sig | RB | 124' 0" | O/H on D-Ring Wall behind N Stairs |
| M3 | RCH-90 | Safety Sig | RB | 120' 0" | O/H on D-Ring Wall behind N Stairs |

| M4 | Layout Reactor Building – Containment Elevation 143'. |
|---|---|

| Location Map | Mark / Tag No | Safety Classification | Building | Elevation | Location |
|---|---|---|---|---|---|
| M4 | BSH-14 | Safety | RB | 137' 6" | O/S by S Stairs Close to Cont. Wall |
| M4 | BSH-19 | Safety | RB | 150' 0" | O/S by S Stairs on Horz. Run Close to Wall |
| M4 | FWH-123 | Safety | RB | 146' 0" | O/H Between Elevator/P.H. |
| M4 | FWH-124 | Safety | RB | 149' 0" | O/H Between Elevator/P.H. W Wall |
| M4 | FWH-130 | Safety | RB | 154' 0" | O/S CFT Area |
| M4 | FWH-131 | Safety | RB | 154' 0" | SW Wall O/S D-Ring O/H (across from Equip. Hatch) |
| M4 | FWH-132 | Safety | RB | 154' 0" | SW Wall O/S D-Ring O/H |
| M4 | MSH-159 | Safety | RB | 148' 0" | O/H by Elevator |
| M4 | MSH-160 | Safety | RB | 142' 0" | O/H by Elevator |
| M4 | MSH-162 | Safety | RB | 132' 0" | O/H in front of Elevator |
| M4 | MSH-166 | Safety | RB | 148' 0" | SW Wall O/S D-Ring O/H (across from Equip. Hatch) |
| M4 | MSH-167 | Safety | RB | 148' 0" | SW Wall O/S D-Ring O/H (across from Equip. Hatch) |
| M4 | MSH-168 | Safety | RB | 142' 0" | SW Wall O/S D-Ring O/H |
| M4 | MSH-170 | Safety | RB | 142' 0" | SW Wall O/S D-Ring N of Equipment Hatch in O/H |
| M4 | MSH-243 | Safety | RB | 147' 0" | SW Wall O/S D-Ring O/H |
| M4 | RCH-614 | Safety | RB-2 D-Ring | 134' 6" | I/S by RCP-1A (L-Bore) |
| M4 | RCH-618 | Safety | RB-2 | 134' 6" | I/S by RCP-1C (L-Bore) |
| M4 | RCH-619 | Safety | RB-2 | 134' 6" | I/S by RCP-1C (L-Bore) |
| M4 | RCH-620 | Safety | RB-2 I/S B-D-Ring | 134' 6" | I/S by RCP-1D (L-Bore) |
| M4 | RCH-86 | Safety Sig | RB | 144' 9" | O/H by Elevator |
| M4 | SWH-483 | Safety | RB | 136' 0" | SW Wall by Equip Hatch |

| M5 | Layout Reactor Building – Containment Inside the D-Rings "A" D-Ring Elevation 152' & 162'. |
|---|---|

| Location Map | Mark / Tag No | Safety Classification | Building | Elevation | Location |
|---|---|---|---|---|---|
| M5 | DHH-35 | Safety | RB-2 | 152' 5" | NW Side PZR Platform |
| M5 | DHH-36 | Safety | RB-2 | 152' 5" | NW Side PZR Platform 15' Down By RCV-12 /53 |
| M5 | DHH-37 | Safety | RB-2 | 159' 7" | W Side PZR Platform UPST of RCV-12 |
| M5 | DHH-38 | Safety | RB-2 | 160' 1" | W Side PZR Platform |
| M5 | DHH-39 | Safety | RB-2 | 165' 9" | NS Top of PZR on Landing |
| M5 | DHR-64 | Safety | RB-2 | 169' 4" | NS Top of PZR on Landing |
| M5 | RCH-29 | Safety | RB-2 | 168' 8" | Top of PZR |
| M5 | RCH-530 | Safety | RB-2 | 170' 0" | Top of PZR |
| M5 | RCH-531 | Safety | RB-2 | 170' 0" | Top of PZR |
| M5 | RCH-60 | Safety Sig | RB | 167' 5" | Top of PZR |
| M5 | RCH-63 | Safety Sig | RB-2 | 148' 4" | N Side of PZR Platform |
| M5 | RCH-64 | Safety Sig | RB-2 | 148' 3" | N Side of PZR Platform |
| M5 | RCH-66 | Safety | RB-2 | 140' 0" | S Side of PZR Platform |
| M5 | RCH-67 | Safety | RB-2 | 166' 0" | S Side of PZR Platform |
| M5 | RCH-68 | Safety | RB-2 | 167' 1" | S Side of PZR Platform |
| M5 | RCH-69 | Safety | RB-2 | 167' 1" | Top of PZR - Leave SA Pin (Disconnect in place, pin mushroomed) |
| M5 | RCH-70 | Safety | RB-2 | 167' 1" | Top of PZR |
| M5 | RCH-71L | Safety | RB-2 | 167' 1" | Top of PZR |
| M5 | RCH-71U | Safety | RB-2 | 167' 1" | Top of PZR |
| M5 | RCH-73 | Safety | RB-2 | 167' 1" | Top of PZR |
| M5 | RCH-74 | Safety | RB-2 | 167' 1" | Top of PZR |
| M5 | RCH-76 | Safety | RB-2 | 139' 11" | S Side of PZR Platform |
| M5 | RCH-78 | Safety | RB-2 | 150' 10" | S Side of PZR Platform |
| M5 | RCH-79 | Safety | RB-2 | 156' 8" | S Side of PZR Platform |
| M5 | RCH-80 | Safety | RB-2 | 168' 3" | Top of PZR - Removed every outage to access RCV-14 |
| M5 | RCH-81 | Safety | RB-2 | 168' 4" | Top of PZR - Removed every outage to access RCV-13 |
| M5 | SWR-423 | Safety | RB-2 | 151' 0" | N Side of PZR D-Ring Wall at Ladder by B RCP |
| M5 | SWR-425 | Safety | RB-2 | 153' 0" | Ladder-PZR to RCP 1B |
| M5 | SWR-440 | Safety | RB-2 | 154' 0" | Ladder-PZR to RCP 1B |

| M6 | Layout Reactor Building – Containment Inside the D-Rings "A" D-Ring Elevation 119' & 142'. |
|---|---|

| Location Map | Mark / Tag No | Safety Classification | Building | Elevation | Location |
|---|---|---|---|---|---|
| M6 | FWH-125 | Safety | RB-2 | 137' 0" | N Side of A D-Ring Wall |
| M6 | RCH-47N | Safety | RB-2 | 121' 9" | Surge Line at B Pump Near Hot Leg |
| M6 | RCH-47S | Safety | RB-2 | 121' 9" | Surge Line at B Pump Near Hot Leg |
| M6 | RCH-48 | Safety | RB-2 | 121' 9" | Surge Line at B Pump Near Hot Leg |
| M6 | RCH-49 | Safety | RB-2 | 121' 9" | Surge Line at B Pump Near Hot Leg |
| M6 | RCH-65 | Safety | RB-2 | 131' 9" | Bottom of PZR Platform, S Side O/H |
| M6 | RCH-77 | Safety | RB-2 | 131' 6" | Bottom of PZR Platform, S Side O/H |

| M7 | Layout Reactor Building – Containment Inside the D-Rings "B" D-Ring Elevation 136' & 142'. |
|---|---|

| Location Map | Mark / Tag No | Safety Classification | Building | Elevation | Location |
|---|---|---|---|---|---|
| M7 | EFH-27 | Safety | RB-2 | 145' 9" | RCP 1D Outer Wall S Side of B Gen. |
| M7 | EFH-28 | Safety | RB-2 | 145' 9" | RCP 1D Outer Wall S Side of B Gen. |
| M7 | FWH-133 | Safety | RB-2 | 138' 0" | N Side of D-Ring Wall by RCP-1D |
| M7 | SWH-493L | Safety | RB-2 | 136' 0" | RCP 1D Outer Wall |
| M7 | SWH-493U | Safety | RB-2 | 136' 0" | RCP 1D Outer Wall |

| M8 | Layout Reactor Building – Containment Inside the D-Rings Catwalk to Pressurizer. |
|---|---|

| Location Map | Mark / Tag No | Safety Classification | Building | Elevation | Location |
|---|---|---|---|---|---|
| M8 | CFH-16 | Safety | RB-2 | 120' 9" | CatWalk to PZR |
| M8 | CFH-17 | Safety | RB-2 | 120' 9" | CatWalk South of PZR |
| M8 | CFH-18 | Safety | RB-2 | 120' 9" | CatWalk to PZR |
| M8 | CFH-19 | Safety | RB-2 | 123' 0" | CatWalk to PZR |
| M8 | MUH-32 | Safety | RB-2 | 115' 0" | CatWalk to PZR |

| M9 | Layout Auxiliary & Intermediate Building – "A" Decay Heat Pit Basement Floor Elevation 75'. |
|---|---|

| Location Map | Mark / Tag No | Safety Classification | Building | Elevation | Location |
|---|---|---|---|---|---|
| M9 | BSR-31 | Safety | AB | 83' 0" | 'A' Decay Heat Pit, Sth of Ladder in OH |
| M9 | DHR-31 | Safety | AB | 84' 9" | 'A' Decay Heat Pit, Sth of Ladder OH |
| M9 | DHR-49 | Safety | AB | 85' 6" | 'A' Decay Heat Pit, Sth End of Room |

| M10 | Layout Auxiliary & Intermediate Building – "B" Decay Heat Pit Basement Floor Elevation 75'. |
|---|---|

| Location Map | Mark / Tag No | Safety Classification | Building | Elevation | Location |
|---|---|---|---|---|---|
| M10 | BSR-35 | Safety | AB | 83' 0" | 'B' Decay Heat Pit, 14' NE of Ladder |
| M10 | DHR-18 | Safety | AB | 84' 7" | 'B' Decay Heat Pit, Over E Side of DHHE-1B |
| M10 | DHR-37 | Safety | AB | 85' 6" | 'B' Decay Heat Pit, Sth End of Room |

| M11 | Layout Auxiliary & Intermediate Building – Floor Elevation 95'. |
|---|---|

| Location Map | Mark / Tag No | Safety Classification | Building | Elevation | Location |
|---|---|---|---|---|---|
| M11 | MSH-214 | Safety | IB | 115' 0" | I.B. Above EF Pump Motor at Ceiling |
| M11 | MSH-250 | Safety | IB | 111' 0" | I.B. Over EF Pump Motors |
| M11 | MSH-251 | Safety | IB | 109' 0" | I.B. Over EF Pump Motors |
| M11 | MSH-255 | Safety Sig | IB | 105' 0" | I.B. by EF Pumps, Over MSV-439 / 440 |
| M11 | MSH-664 | Safety Sig. | IB | 107' 10" | DNST of EFP-1 |

| M12 | Layout Auxiliary Building – Reactor Coolant Bleed Tanks Floor Elevation 95'. |
|---|---|

| Location Map | Mark / Tag No | Safety Classification | Building | Elevation | Location |
|---|---|---|---|---|---|
| M12 | DCR-33E | Safety | AB | 99' 0" | RC Bleed Tank Room, Between Tanks B/C |
| M12 | DCR-33W | Safety | AB | 99' 0" | RC Bleed Tank Room, Between Tanks B/C |

| M13 | Layout Auxiliary Building – Seawater Room Basement Floor Elevation 75' & 95'. |
|---|---|

| Location Map | Mark / Tag No | Safety Classification | Building | Elevation | Location |
|---|---|---|---|---|---|
| M13 | SWR-18 | Safety | AB | 107' 0" | SeaWater Room, 15' NW of SWHE-1A / 1B |

| M14 | Layout Auxiliary Building – Spent Fuel Coolant Pumps Floor Elevation 119'. |
|---|---|

| Location Map | Mark / Tag No | Safety Classification | Building | Elevation | Location |
|---|---|---|---|---|---|
| M14 | DHR-28 | Safety | AB | 134' 3" | StairWell to 143' Elev O/H by Dressout |

| M15 | Layout Auxiliary Building – Triangle Room Floor Elevation 95'. |
|---|---|

| Location Map | Mark / Tag No | Safety Classification | Building | Elevation | Location |
|---|---|---|---|---|---|
| M15 | DHR-21 | Safety | AB | 103' 6" | Triangle RM by 'B' S.I. Filter Next to DHV-39 |

| M16 | Layout Auxiliary Building – RMA-6 Area, Block Orifice Room, Valve Alley Floor Elevation 119'. |
|---|---|

| Location Map | Mark / Tag No | Safety Classification | Building | Elevation | Location |
|---|---|---|---|---|---|
| M16 | DHR-24L | Safety | AB | 129' 6" | S Wall Deborating Demin V.Alley |
| M16 | DHR-24U | Safety | AB | 129' 6" | S Wall Deborating Demin V.Alley |
| M16 | SWR-91 | Safety | AB | 129' 0" | Entrance to Block Orifice Room |

| M17 | Layout Intermediate Building – Mezzanine Floor Elevation 119'. |
|---|---|

| Location Map | Mark / Tag No | Safety Classification | Building | Elevation | Location |
|---|---|---|---|---|---|
| M17 | FWH-142 | Safety | IB | 136' 0" | Above CICP-2A / 2B in O/H |
| M17 | FWH-145 | Safety | IB | 136' 0" | Above CICP-2A /2B in O/H |
| M17 | FWH-146 | Safety | IB | 133' 0" | On Roof Inside Double Doors |
| M17 | FWH-151 | Safety | IB | 131' 0" | 3' W of MTMC-9 in O/H |
| M17 | FWH-152 | Safety | IB | 131' 0" | 3' W of MTMC-9 in O/H |
| M17 | FWH-153 | Safety | IB | 131' 0" | 24' W of Single Door O/H MTMC-8 |
| M17 | FWH-154 | Safety | IB | 131' 0" | 24' W of Single Door O/H MTMC-8 |
| M17 | FWH-155 | Safety | IB | 131' 0" | Inside E Door on Right Wall 12' Up |
| M17 | FWH-156 | Safety | IB | 131' 0" | Inside E Door on Right Wall 12' Up |
| M17 | FWH-164 | Safety | IB | 136' 0" | On Roof Inside Double Doors |
| M17 | FWH-165 | Safety | IB | 134' 0" | In O/H 25' S of W Doorway, Over LRV-21 |
| M17 | FWH-166 | Safety | IB | 134' 0" | Over LRHE-1, 15' O/H |
| M17 | FWH-167 | Safety | IB | 134' 0" | Just S of LRHE-1 in O/H |
| M17 | FWH-168 | Safety | IB | 134' 0" | Up Ladder Near Tank |
| M17 | FWH-169 | Safety | IB | 134' 0" | O/H E of Leak Rate Tank, N Side of Column 310-I-2 |
| M17 | FWH-170 | Safety | IB | 134' 0" | East Side of Column 310-I-2 |
| M17 | FWH-171 | Safety | IB | 119' 0" | Upst On Floor Next To FWV-146 |
| M17 | MSH-117 | Safety Sig. | IB | 122' 0" | To Right Just Inside Double Doors |
| M17 | MSH-118 | Safety Sig. | IB | 122' 0" | To Right Just Inside Double Doors |
| M17 | MSH-119 | Safety Sig. | IB | 122' 0" | S Side on E Main Steam Line |
| M17 | MSH-120 | Safety Sig. | IB | 122' 0" | Three Hangers N of MSV-413 |
| M17 | MSH-121 | Safety Sig. | IB | 122' 0" | Just N of MSV-414 |
| M17 | MSH-122 | Safety Sig. | IB | 122' 0" | Just N of MSV-413 |
| M17 | MSH-123 | Safety | IB | 122' 0" | S of MSV-413 on Same Line |
| M17 | MSH-124 | Safety | IB | 122' 0" | S of MSV-414 on Same Line |
| M17 | MSH-207 | Safety | IB | 136' 0" | 9' E of CIP-2B in O/H |
| M17 | MSH-227 | Safety Sig. | IB | 122' 0" | Just DNST of MSV-413 |
| M17 | MSH-231 | Safety Sig. | IB | 122' 0" | Through West Door, on ground past first MS line |
| M17 | MSH-232 | Safety Sig. | IB | 119' 0" | 10' N of MSV-414 |
| M17 | MSH-248 | Safety | IB | 136' 0" | 10' N of MSV-48 |
| M17 | MSH-665 | Safety Sig. | IB | 123' 6" | In Single Door to IB, To Right |

| M18 | Layout Intermediate Building – Mezzanine Floor Elevation 119' (detailed area). |
|---|---|

| Location Map | Mark / Tag No | Safety Classification | Building | Elevation | Location |
|---|---|---|---|---|---|
| M18 | EFH-109 | Safety Sig | IB | 133' 0" | 2' W of MSV-412 in OH |
| M18 | EFH-110 | Safety Sig | IB | 133' 0" | Between MSV-411/412 |
| M18 | EFH-141 | Safety Sig | IB | 126' 6" | Near FWV-34, Work From Grate |
| M18 | EFH-143 | Safety Sig | IB | 133' 6" | Over Stairs W of MSV-412 |
| M18 | EFH-144 | Safety Sig | IB | 141' 3" | O/H Above MSIV Platform, Next to FWV-39 |
| M18 | EFH-92 | Safety Sig | IB | 140' 0" | 11' NW of MSV-412 in O/H |
| M18 | EFH-93 | Safety Sig | IB | 131' 8" | O/H on N Wall, NW of MSV-412 |
| M18 | EFH-94 | Safety Sig | IB | 131' 8" | 6' S of MSV-411 |
| M18 | EFH-95 | Safety Sig | IB | 140' 0" | Over FWV-35 on Wall |
| M18 | FWH-138 | Safety Sig | IB | 136' 0" | N of MSV-42, O/H at Wall |
| M18 | FWH-139 | Safety Sig | IB | 136' 0" | 3' E of FWV-30 Off Grate |
| M18 | FWH-140 | Safety Sig | IB | 136' 0" | 8' E of FWV-31, Work From Pipe |
| M18 | FWH-141 | Safety | IB | 136' 0" | 3' W of FWV-31, Work From Pipe |
| M18 | FWH-143 | Safety | IB | 142' 0" | 3' E of CICP-2A / 2B in O/H |
| M18 | FWH-144 | Safety | IB | 136' 0" | 3' W (DNST) of FWV-30 Under Grate |
| M18 | FWH-147A | Safety | IB | 133' 0" | In Overhead Center of Room Above CIP-2B |
| M18 | FWH-148 | Safety | IB | 133' 0" | In O/H 8' N of MSV-411 / 412 |
| M18 | FWH-149 | Safety | IB | 133' 0" | In O/H By MSIV's 4' S of MSV-40 |
| M18 | FWH-150 | Safety | IB | 133' 0" | In Overhead over MSIV's 7' above Walk at MSV-411 |
| M18 | FWH-157 | Safety Sig | IB | 136' 0" | NE of MSV-33 O/H |
| M18 | FWH-158 | Safety Sig | IB | 136' 0" | Over MSV-33 |
| M18 | FWH-159 | Safety Sig | IB | 136' 0" | UPST of FWV-29 Under Grate |
| M18 | FWH-160 | Safety | IB | 136' 0" | 6' SE of MSV-411 O/H |
| M18 | FWH-161 | Safety | IB | 136' 0" | Over CIP-2A About 12' High |
| M18 | FWH-162 | Safety | IB | 142' 0" | 8' N of CIP-2A at Ceiling |
| M18 | FWH-163 | Safety | IB | 136' 0" | In Overhead Over MSIV's, W of FWV-29 Below Grate |
| M18 | MSH-125 | Safety | IB | 122' 0" | Upst (S) of MSV-411 |
| M18 | MSH-126A | Safety | IB | 122' 0" | Just S of MSV-412 |
| M18 | MSH-128 | Safety | IB | 122' 0" | S of MSV-411, Next to Ladder |
| M18 | MSH-212 | Safety | IB | 134' 0" | 8' S of MSV-411 |
| M18 | MSH-213 | Safety | IB | 130' 0" | 8' N of MSV-33 |
| M18 | MSH-240 | Safety Sig. | IB | 122' 0" | N Wall Between Doors, N of MSV-411 |
| M18 | MSH-252 | Safety | IB | 136' 0" | In O/H Above MSIV's, 2' S of FWV-32 |

| M19 | Layout Turbine Building – Basement Floor Elevation 95'. |
|---|---|

| Location Map | Mark / Tag No | Safety Classification | Building | Elevation | Location |
|---|---|---|---|---|---|
| M19 | MSH-233 | Safety Sig. | TB | 109' 0" | Above FW Heater |
| M19 | MSH-234 | Safety Sig. | TB | 109' 0" | On MS Line From MSV-412 |
| M19 | MSH-235 | Safety Sig. | TB | 116' 0" | On MS Line From MSV-412 |
| M19 | MSH-237 | Safety Sig. | TB | 109' 0" | On MS Line From MSV-411 |
| M19 | MSH-238 | Safety Sig. | TB | 109' 0" | On MS Line From MSV-411 |
| M19 | MSH-239 | Safety Sig. | TB | 116' 0" | On MS Line From MSV-411 |

| M20 | Layout Turbine Building & Heater Bay – Mezzanine Floor Elevation 119'. |
|---|---|

| Location Map | Mark / Tag No | Safety Classification | Building | Elevation | Location |
|---|---|---|---|---|---|
| M20 | HVR-4 | Non Safety | TB | 136' 0" | Over FWHE-6A, Above HVV-43 |

| M21 | Layout Turbine Building & Heater Bay – Mezzanine Floor Elevation 119' (Cont.). |
|---|---|

| Location Map | Mark / Tag No | Safety Classification | Building | Elevation | Location |
|---|---|---|---|---|---|
| M21 | MSH-223 | Safety Sig. | TB | 131' 0" | On M/S Line From MSIV-413 |
| M21 | MSH-224 | Safety Sig. | TB | 131' 0" | On M/S Line From MSIV-413 |
| M21 | MSH-225 | Safety Sig. | TB | 131' 0" | On M/S Line From MSIV-413 |
| M21 | MSH-226E | Safety Sig. | TB | 122' 0" | On M/S Line From MSIV-413 |
| M21 | MSH-226W | Safety Sig. | TB | 122' 0" | On M/S Line From MSIV-413 |
| M21 | MSH-228 | Safety Sig. | TB | 131' 0" | Just DNST of MSV-413 |
| M21 | MSH-229 | Safety Sig. | TB | 131' 0" | Just DNST of MSV-413 |
| M21 | MSH-230 | Safety Sig. | TB | 131' 0" | Over Double Doors to IB |

| M22 | Layout Above Turbine Building & Heater Bay Operating Floor Elevation 145'. |
|---|---|

| Location Map | Mark / Tag No | Safety Classification | Building | Elevation | Location |
|---|---|---|---|---|---|
| M22 | HVR-10N | Non Safety | TB | 206' 0" | On Vent Line From MDT-1 |
| M22 | HVR-10S | Non Safety | TB | 206' 0" | On Vent Line From MDT-1 |

| M23 | Layout Above Heater Bay Floor & Control Complex Elevation 95' to 181". |
|---|---|

| Location Map | Mark / Tag No | Safety Classification | Building | Elevation | Location |
|---|---|---|---|---|---|
| M23 | RVR-3E | Non Safety | TB | 178' 0" | On Vent Line, RHV-9 Discharge |
| M23 | RVR-3W | Non Safety | TB | 178' 0" | On Vent Line, RHV-9 Discharge |
| M23 | RVR-4E | Non Safety | TB | 178' 0" | On Vent Line, RHV-10 Discharge |
| M23 | RVR-4W | Non Safety | TB | 178' 0" | On Vent Line, RHV-10 Discharge |

| M24 | Cross Section through Turbine Building & Heater Bay |
|---|---|

| Location Map | Mark / Tag No | Safety Classification | Building | Elevation | Location |
|---|---|---|---|---|---|
| M24 | RVR-5N | Non Safety | TB | 215' 0" | On Vent Line, Turbine Building Roof |
| M24 | RVR-5S | Non Safety | TB | 215' 0" | On Vent Line, Turbine Building Roof |
| M24 | RVR-6N | Non Safety | TB | 215' 0" | On Vent Line, Turbine Building Roof |
| M24 | RVR-6S | Non Safety | TB | 215' 0" | On Vent Line, Turbine Building Roof |

## 10.0 ATTACHMENTS

Attachment 1 – Accessible Safety Related / Safety Significant Small & Medium Bore Snubbers
Attachment 2 – Inaccessible Safety Related Small & Medium Bore Snubbers
Attachment 3 – Inaccessible Safety Related Large Bore Snubbers
Attachment 4 – Non Safety Related Snubbers
Attachment 5 – Snubber Seal Life Information
Attachment 6 – Snubber Location Information
Attachment 7 – Safety Assessments
Attachment 8 – NRC Letter # 3F120704 Inservice Inspection Program Plan, 10 Year Update
Attachment 9 – Relief Requests
Attachment 10 – ASME Section XI Interpretations
Attachment 11 – Snubber Tech. Spec. Information
Attachment 12 – OMN-13 Visual Examination Tracking

## Attachment 1
## Accessible Safety Related Small & Medium Bore Snubbers

| Mark / Tag No | Serial No | Model | Category | Safety Classification | ASME Class | Building | Location Map No | Date Installed |
|---|---|---|---|---|---|---|---|---|
| BSR-31 | 30700004/006 | 3038 | Accessible | Safety | 2 | AB | M9 | 21-Sept-09 |
| BSR-35 | 30700257/024 | 3038 | Accessible | Safety | 2 | AB | M10 | 16-Sept-09 |
| DCR-33E | 30700257/017 | 3038 | Accessible | Safety | 3 | AB | M12 | 18-Nov-07 |
| DCR-33W | 30700257/018 | 3038 | Accessible | Safety | 3 | AB | M12 | 18-Nov-07 |
| DHR-18 | 30700257/001 | 3038 | Accessible | Safety | 2 | AB | M10 | 01-Nov-07 |
| DHR-21 | 30700636/017 | 3042 | Accessible | Safety | 2 | AB | M15 | 22-Sept-09 |
| DHR-24L | 30800124/019 | 3038 | Accessible | Safety | 2 | AB | M16 | 22-Sept-09 |
| DHR-24U | 30700492/020 | 3038 | Accessible | Safety | 2 | AB | M16 | 22-Sept-09 |
| DHR-28 | 30700257/002 | 3038 | Accessible | Safety | 2 | AB | M14 | 30-Nov-07 |
| DHR-31 | 30700492/004 | 3038 | Accessible | Safety | 2 | AB | M9 | 21-Sept-09 |
| DHR-37 | 30700257/003 | 3038 | Accessible | Safety | 2 | AB | M10 | 01-Nov-07 |
| DHR-49 | 30700257/004 | 3038 | Accessible | Safety | 2 | AB | M9 | 31-Oct-07 |
| EFH-109 | 740004 | PP 1.5X5 | Accessible | Safety Sig | 4 | IB | M18 | 02-Oct-01 |
| EFH-110 | 30700257/006 | 3038 | Accessible | Safety Sig | 4 | IB | M18 | 04-Nov-07 |
| EFH-141 | 750122 | PP 1.5X5 | Accessible | Safety Sig | 4 | IB | M18 | 05-Jan-04 |
| EFH-143 | 30700257/007 | 3038 | Accessible | Safety Sig | 4 | IB | M18 | 07-Nov-07 |
| EFH-144 | 30700257/008 | 3038 | Accessible | Safety Sig | 4 | IB | M18 | 04-Nov-07 |
| EFH-92 | 04616483/009 | 3038 | Accessible | Safety Sig | 4 | IB | M18 | 05-Nov-05 |
| EFH-93 | 30700257/005 | 3038 | Accessible | Safety Sig | 4 | IB | M18 | 15-Nov-07 |
| EFH-94 | 30700492/017 | 3038 | Accessible | Safety Sig | 4 | IB | M18 | 23-Dec-09 |
| EFH-95 | 750071 | PP 2X5 | Accessible | Safety Sig | 4 | IB | M18 | 31-Dec-03 |
| FWH-138 | 03616013/009 | 3052 | Accessible | Safety Sig | 4 | IB | M18 | 03-Nov-05 |
| FWH-139 | 30700296/007 | 3042 | Accessible | Safety Sig | 4 | IB | M18 | 07-Nov-07 |
| FWH-140 | 30700636/009 | 3042 | Accessible | Safety Sig | 4 | IB | M18 | 05-Nov-09 |
| FWH-141 | 3070661/001 | 3052 | Accessible | Safety | 2 | IB | M18 | 05-Nov-09 |
| FWH-142 | 30700636/028 | 3042 | Accessible | Safety | 2 | IB | M17 | 06-Oct-09 |
| FWH-143 | 30500067/07 | 3042 | Accessible | Safety | 2 | IB | M18 | 04-Nov-05 |
| FWH-144 | 30500067/002 | 3042 | Accessible | Safety | 2 | IB | M18 | 04-Nov-05 |
| FWH-145 | 30800511/030 | 3052 | Accessible | Safety | 2 | IB | M17 | 06-Nov-09 |
| FWH-146 | 30700636/027 | 3042 | Accessible | Safety | 2 | IB | M17 | 02-Nov-09 |
| FWH-147A | 30800511/026 | 3052 | Accessible | Safety | 2 | IB | M18 | 02-Nov-09 |
| FWH-148 | 30600231/012 | 3042 | Accessible | Safety | 2 | IB | M18 | 23-Nov-07 |
| FWH-149 | 03616013/010 | 3052 | Accessible | Safety | 2 | IB | M18 | 04-Nov-05 |
| FWH-150 | 30500067/001 | 3042 | Accessible | Safety | 2 | IB | M18 | 04-Nov-05 |
| FWH-151 | 30700636/025 | 3042 | Accessible | Safety | 2 | IB | M17 | 01-Nov-09 |
| FWH-152 | 0361013/007 | 3052 | Accessible | Safety | 2 | IB | M17 | 01-Nov-05 |
| FWH-153 | 30400010/02 | 3042 | Accessible | Safety | 2 | IB | M17 | 31-Oct-05 |
| FWH-154 | 30400010/03 | 3042 | Accessible | Safety | 2 | IB | M17 | 31-Oct-05 |

## Attachment 1
## Accessible Safety Related Small & Medium Bore Snubbers

| Mark / Tag No | Serial No | Model | Category | Safety Classification | ASME Class | Building | Location Map No | Date Installed |
|---|---|---|---|---|---|---|---|---|
| FWH-155 | 30400010/08 | 3042 | Accessible | Safety | 2 | IB | M17 | 31-Oct-05 |
| FWH-156 | 30400010/10 | 3042 | Accessible | Safety | 2 | IB | M17 | 31-Oct-05 |
| FWH-157 | 30400010/09 | 3042 | Accessible | Safety Sig | 4 | IB | M18 | 02-Nov-05 |
| FWH-158 | 04616373/005 | 3062 | Accessible | Safety Sig | 4 | IB | M18 | 02-Nov-05 |
| FWH-159 | 30600572/005 | 3052 | Accessible | Safety Sig | 4 | IB | M18 | 19-Nov-07 |
| FWH-160 | 30700636/026 | 3042 | Accessible | Safety | 2 | IB | M18 | 05-Oct-09 |
| FWH-161 | 30400010/04 | 3042 | Accessible | Safety | 2 | IB | M18 | 04-Nov-05 |
| FWH-162 | 30600231/008 | 3052 | Accessible | Safety | 2 | IB | M18 | 23-Nov-07 |
| FWH-163 | 30700661/005 | 3052 | Accessible | Safety | 2 | IB | M18 | 04-Oct-09 |
| FWH-164 | 30800511/028 | 3052 | Accessible | Safety | 2 | IB | M17 | 05-Nov-09 |
| FWH-165 | 03615923/017 | 3052 | Accessible | Safety | 2 | IB | M17 | 04-Nov-05 |
| FWH-166 | 30500067/05 | 3042 | Accessible | Safety | 2 | IB | M17 | 04-Nov-05 |
| FWH-167 | 03615923/020 | 3052 | Accessible | Safety | 2 | IB | M17 | 04-Nov-05 |
| FWH-168 | 03616013/013 | 3052 | Accessible | Safety | 2 | IB | M17 | 06-Nov-05 |
| FWH-169 | 30700636/030 | 3042 | Accessible | Safety | 2 | IB | M17 | 03-Nov-09 |
| FWH-170 | 30700636/029 | 3042 | Accessible | Safety | 2 | IB | M17 | 03-Nov-09 |
| FWH-171 | 30800289/001 | 3042 | Accessible | Safety | 2 | IB | M17 | 01-Nov-09 |
| MSH-117 | 760190 | PP 5X15 | Accessible | Safety Sig | 4 | IB | M17 | 01-Oct-03 |
| MSH-118 | 30600707/038 | 3053 | Accessible | Safety Sig | 4 | IB | M17 | 25-Nov-07 |
| MSH-119 | 30600707/039 | 3053 | Accessible | Safety Sig | 4 | IB | M17 | 08-Nov-07 |
| MSH-120 | 30600707/040 | 3053 | Accessible | Safety Sig | 4 | IB | M17 | 13-Nov-07 |
| MSH-121 | 30600231/007 | 3052 | Accessible | Safety Sig | 4 | IB | M17 | 08-Nov-07 |
| MSH-122 | 03615923/019 | 3052 | Accessible | Safety Sig | 4 | IB | M17 | 01-Nov-05 |
| MSH-123 | 30700296/009 | 3042 | Accessible | Safety | 2 | IB | M17 | 23-Nov-07 |
| MSH-124 | 30900002/004 | 3042 | Accessible | Safety | 2 | IB | M17 | 16-Dec-09 |
| MSH-125 | 30600231/001 | 3052 | Accessible | Safety | 2 | IB | M18 | 25-Nov-07 |
| MSH-126A | 30700113/006 | 3062 | Accessible | Safety | 2 | IB | M18 | 30-Sep-09 |
| MSH-128 | 30700296/014 | 3042 | Accessible | Safety | 2 | IB | M18 | 12-Nov-07 |
| MSH-207 | 04616483/010 | 3038 | Accessible | Safety | 3 | IB | M17 | 13-Nov-07 |
| MSH-212 | 730131 | PP 1.5X5 | Accessible | Safety | 3 | IB | M18 | 31-Dec-03 |
| MSH-213 | 730029 | PP 2X5 | Accessible | Safety | 3 | IB | M18 | 31-Dec-03 |
| MSH-214 | 760088 | PP 2X5 | Accessible | Safety | 3 | IB | M11 | 04-Sep-01 |
| MSH-223 | 04616373/004 | 3062 | Accessible | Safety Sig | 4 | TB | M21 | 30-Oct-09 |
| MSH-224 | 30700210/017 | 3072 | Accessible | Safety Sig | 4 | TB | M21 | 30-Nov-07 |
| MSH-225 | 30600707/041 | 3053 | Accessible | Safety Sig | 4 | TB | M21 | 30-Nov-07 |
| MSH-226E | 30700296/016 | 3042 | Accessible | Safety Sig | 4 | TB | M21 | 16-Nov-07 |
| MSH-226W | 30700296/017 | 3042 | Accessible | Safety Sig | 4 | TB | M21 | 16-Nov-07 |
| MSH-227 | 720069 | PP 5X5 | Accessible | Safety Sig | 4 | IB | M17 | 30-Dec-03 |

## Attachment 1
## Accessible Safety Related Small & Medium Bore Snubbers

| Mark / Tag No | Serial No | Model | Category | Safety Classification | ASME Class | Building | Location Map No | Date Installed |
|---|---|---|---|---|---|---|---|---|
| MSH-228 | 30700113/009 | 3062 | Accessible | Safety Sig | 4 | TB | M21 | 08-Oct-09 |
| MSH-229 | 30600313/003 | 3062 | Accessible | Safety Sig | 4 | TB | M21 | 30-Nov-07 |
| MSH-230 | 04616413/03 | 3063 | Accessible | Safety Sig | 4 | TB | M21 | 30-Oct-05 |
| MSH-231 | 30500001/01 | 3052 | Accessible | Safety Sig | 4 | IB | M17 | 31-Oct-05 |
| MSH-232 | 30800568/003 | 3072 | Accessible | Safety Sig | 4 | IB | M17 | 29-Sept-09 |
| MSH-233 | 840001 | PP 5X5 | Accessible | Safety Sig | 4 | TB | M19 | 13-Jan-98 |
| MSH-234 | 760067 | PP 5X5 | Accessible | Safety Sig | 4 | TB | M19 | 30-Dec-03 |
| MSH-235 | 30600572/009 | 3052 | Accessible | Safety Sig | 4 | TB | M19 | 30-Nov-07 |
| MSH-237 | 760068 | PP 5X5 | Accessible | Safety Sig | 4 | TB | M19 | 29-Dec-03 |
| MSH-238 | 720066 | PP 5X5 | Accessible | Safety Sig | 4 | TB | M19 | 01-Oct-01 |
| MSH-239 | 30600231/017 | 3052 | Accessible | Safety Sig | 4 | TB | M19 | 26-Nov-07 |
| MSH-240 | 30700113/004 | 3062 | Accessible | Safety Sig | 4 | IB | M18 | 11-Nov-09 |
| MSH-248 | 30700257/025 | 3038 | Accessible | Safety | 3 | IB | M17 | 26-Oct-09 |
| MSH-250 | 30800124/020 | 3038 | Accessible | Safety | 3 | IB | M11 | 16-Oct-09 |
| MSH-251 | 30600572/007 | 3052 | Accessible | Safety | 3 | IB | M11 | 23-Nov-07 |
| MSH-252 | 30800124/007 | 3038 | Accessible | Safety | 3 | IB | M18 | 26-Oct-09 |
| MSH-255 | 04616483/014 | 3038 | Accessible | Safety Sig | 4 | IB | M11 | 01-Nov-05 |
| MSH-664 | 30700257/014 | 3038 | Accessible | Safety Sig | 4 | IB | M11 | 14-Nov-07 |
| MSH-665 | 30700257/015 | 3038 | Accessible | Safety Sig | 4 | IB | M17 | 09-Nov-07 |
| SWR-18 | 30700296/002 | 3042 | Accessible | Safety | 3 | AB | M13 | 05-Nov-07 |
| SWR-91 | 30800289/002 | 3042 | Accessible | Safety | 3 | AB | M16 | 29-Sept-09 |

## Attachment 2
## Inaccessible Safety Related Small & Medium Bore Snubbers

| Mark / Tag No | Serial No | Model | Category | Safety Classification | ASME Class | Building | Location Map No | Date Installed |
|---|---|---|---|---|---|---|---|---|
| BSH-14 | 30500067/09 | 3042 | Inaccessible | Safety | 2 | RB | M4 | 04-Nov-05 |
| BSH-19 | 30500067/04 | 3042 | Inaccessible | Safety | 2 | RB | M4 | 04-Nov-05 |
| CFH-14 | 740047 | PP 2.5X5 | Inaccessible | Safety | 1 | RB | M2 | 08-Oct-01 |
| CFH-15 | 750046 | PP 4X5 (2") | Inaccessible | Safety | 1 | RB-2 | M2 | 29-Dec-03 |
| CFH-16 | 30600572/006 | 3052 | Inaccessible | Safety | 1 | RB-2 | M8 | 16-Nov-07 |
| CFH-17 | 730018 | PP 4X5 (1.75") | Inaccessible | Safety | 1 | RB-2 | M8 | 06-Oct-01 |
| CFH-18 | 720083 | PP 2.5X5 | Inaccessible | Safety | 1 | RB-2 | M8 | 05-Oct-01 |
| CFH-19 | 720105 | PP 4X5 (1.75") | Inaccessible | Safety | 1 | RB-2 | M8 | 05-Jan-04 |
| DHH-17 | 30800997/004 | 3042 | Inaccessible | Safety | 2 | RB | M1 | 25-Oct-09 |
| DHH-18 | 30500067/06 | 3042 | Inaccessible | Safety | 2 | RB | M1 | 06-Nov-05 |
| DHH-23 | 30800997/005 | 3042 | Inaccessible | Safety | 2 | RB | M1 | 14-Oct-09 |
| DHH-25 | 30500067/10 | 3042 | Inaccessible | Safety | 2 | RB | M1 | 07-Nov-05 |
| DHH-26H | 30500067/08 | 3042 | Inaccessible | Safety | 2 | RB | M1 | 07-Nov-05 |
| DHH-26V | 30700296/015 | 3042 | Inaccessible | Safety | 2 | RB | M1 | 20-Nov-07 |
| DHH-27 | 30700636/016 | 3042 | Inaccessible | Safety | 2 | RB | M1 | 12-Oct-09 |
| DHH-35 | 30700257/019 | 3038 | Inaccessible | Safety | 3 | RB-2 | M5 | 12-Nov-07 |
| DHH-36 | 720128 | PP 1.5X5 | Inaccessible | Safety | 3 | RB-2 | M5 | 09-Oct-99 |
| DHH-37 | 750120 | PP 1.5X5 | Inaccessible | Safety | 3 | RB-2 | M5 | 29-Dec-03 |
| DHH-38 | 30700257/020 | 3038 | Inaccessible | Safety | 3 | RB-2 | M5 | 12-Nov-07 |
| DHH-39 | 750104 | PP 1.5X5 | Inaccessible | Safety | 3 | RB-2 | M5 | 10-Oct-01 |
| DHR-64 | 30900553/009 | 3018 | Inaccessible | Safety | 3 | RB-2 | M4 | 26-Jan-10 |
| EFH-27 | 30800997/006 | 3042 | Inaccessible | Safety | 2 | RB-2 | M7 | 21-Dec-09 |
| EFH-28 | 30800997/007 | 3042 | Inaccessible | Safety | 2 | RB-2 | M7 | 21-Dec-09 |
| FWH-122 | 30800568/005 | 3072 | Inaccessible | Safety | 2 | RB | M3 | 29-Oct-09 |
| FWH-123 | 30700113/005 | 3062 | Inaccessible | Safety | 2 | RB | M4 | 13-Oct-09 |
| FWH-124 | 30500001/02 | 3052 | Inaccessible | Safety | 2 | RB | M4 | 10-Nov-05 |
| FWH-125 | 730022 | PP 5X5 | Inaccessible | Safety | 2 | RB-2 | M6 | 31-Dec-03 |
| FWH-128 | 30700661/008 | 3052 | Inaccessible | Safety | 2 | RB | M3 | 29-Oct-09 |
| FWH-130 | 04616373/007 | 3062 | Inaccessible | Safety | 2 | RB | M4 | 11-Nov-05 |
| FWH-131 | 30600313/004 | 3062 | Inaccessible | Safety | 2 | RB | M4 | 22-Nov-07 |
| FWH-132 | 30600572/010 | 3052 | Inaccessible | Safety | 2 | RB | M4 | 23-Nov-07 |
| FWH-133 | 720087 | PP 5X5 | Inaccessible | Safety | 2 | RB-2 | M7 | 29-Dec-03 |
| MSH-139 | 04616373/003 | 3062 | Inaccessible | Safety | 2 | RB | M3 | 13-Nov-05 |
| MSH-147 | 30700113/007 | 3062 | Inaccessible | Safety | 2 | RB | M3 | 06-Nov-09 |
| MSH-149 | 30600231/016 | 3052 | Inaccessible | Safety | 2 | RB | M3 | 12-Nov-07 |

## Attachment 2
## Inaccessible Safety Related Small & Medium Bore Snubbers

| Mark / Tag No | Serial No | Model | Category | Safety Classification | ASME Class | Building | Location Map No | Date Installed |
|---|---|---|---|---|---|---|---|---|
| MSH-150 | 30800511/029 | 3052 | Inaccessible | Safety | 2 | RB | M3 | 11-Oct-09 |
| MSH-159 | 03615643/030 | 3062 | Inaccessible | Safety | 2 | RB | M4 | 13-Nov-05 |
| MSH-160 | 04616493/079 | 3062 | Inaccessible | Safety | 2 | RB | M4 | 19-Nov-07 |
| MSH-162 | 30700113/003 | 3062 | Inaccessible | Safety | 2 | RB | M4 | 12-Nov-09 |
| MSH-164 | 30600231/013 | 3052 | Inaccessible | Safety | 2 | RB | M3 | 07-Nov-07 |
| MSH-165 | 30700113/008 | 3062 | Inaccessible | Safety | 2 | RB | M3 | 12-Oct-09 |
| MSH-166 | 02615453/02 | 3082-DR | Inaccessible | Safety | 2 | RB | M4 | 11-Nov-05 |
| MSH-167 | 30800568/011 | 3072 | Inaccessible | Safety | 2 | RB | M4 | 19-Oct-09 |
| MSH-168 | 04616593/10 | 3072 | Inaccessible | Safety | 2 | RB | M4 | 20-Nov-07 |
| MSH-170 | 04616453/010 | 3072 | Inaccessible | Safety | 2 | RB | M4 | 04-Nov-05 |
| MSH-243 | 30600313/002 | 3062 | Inaccessible | Safety | 2 | RB | M4 | 19-Nov-07 |
| MSH-567L | 04616483/011 | 3038 | Inaccessible | Safety | 2 | RB | M1 | 25-Oct-09 |
| MSH-567U | 04616483/019 | 3038 | Inaccessible | Safety | 2 | RB | M1 | 25-Oct-09 |
| MSH-568L | 04616483/013 | 3038 | Inaccessible | Safety | 2 | RB | M1 | 04-Nov-05 |
| MSH-568U | 04616483/015 | 3038 | Inaccessible | Safety | 2 | RB | M1 | 14-Nov-05 |
| MSH-576L | 04616483/016 | 3038 | Inaccessible | Safety | 2 | RB | M1 | 02-Nov-05 |
| MSH-576U | 04616483/012 | 3038 | Inaccessible | Safety | 2 | RB | M1 | 14-Nov-05 |
| MUH-32 | 30700257/009 | 3038 | Inaccessible | Safety | 1 | RB-2 | M8 | 21-Nov-07 |
| MUH-51 | 04616353/021 | 3018 | Inaccessible | Safety | 1 | RB-2 | M2 | 13-Nov-05 |
| MUH-80 | 720125 | PP 1.5X5 | Inaccessible | Safety | 1 | RB-2 | M1 | 29-Dec-03 |
| MUH-82 | 30700296/001 | 3042 | Inaccessible | Safety | 1 | RB | M1 | 11-Nov-07 |
| RCH-29 | 750082 | PP 2X5 | Inaccessible | Safety | 1 | RB-2 | M5 | 16-Oct-99 |
| RCH-47N | 740069 | PP 2.5X5 | Inaccessible | Safety | 1 | RB-2 | M6 | 05-Jan-04 |
| RCH-47S | 740080 | PP 2.5X5 | Inaccessible | Safety | 1 | RB-2 | M6 | 16-Oct-03 |
| RCH-48 | 720139 | PP 2.5X5 | Inaccessible | Safety | 1 | RB-2 | M6 | 31-Dec-03 |
| RCH-49 | 740065 | PP 2.5X5 | Inaccessible | Safety | 1 | RB-2 | M6 | 31-Dec-03 |

## Attachment 2
## Inaccessible Safety Related Small & Medium Bore Snubbers

| Mark / Tag No | Serial No | Model | Category | Safety Classification | ASME Class | Building | Location Map No | Date Installed |
|---|---|---|---|---|---|---|---|---|
| RCH-530 | 30700257/016 | 3038 | Inaccessible | Safety | 1 | RB-2 | M5 | 14-Nov-07 |
| RCH-531 | 30700257/023 | 3038 | Inaccessible | Safety | 1 | RB-2 | M5 | 14-Nov-07 |
| RCH-55 | 03616013/012 | 3052 | Inaccessible | Safety Sig | 4 | RB | M3 | 04-Nov-05 |
| RCH-58 | 03616013/015 | 3052 | Inaccessible | Safety Sig | 4 | RB | M3 | 08-Nov-05 |
| RCH-60 | 720111 | PP 2X5 | Inaccessible | Safety Sig | 4 | RB | M5 | 10-Oct-01 |
| RCH-63 | 760094 | PP 2X5 | Inaccessible | Safety Sig | 4 | RB-2 | M5 | 30-Dec-03 |
| RCH-64 | 760041 | PP 2X5 | Inaccessible | Safety Sig | 4 | RB-2 | M5 | 10-Oct-01 |
| RCH-65 | 760197 | PP 1.5X5 | Inaccessible | Safety | 1 | RB-2 | M6 | 12-Oct-01 |
| RCH-66 | 730228 | PP 1.5X5 | Inaccessible | Safety | 1 | RB-2 | M5 | 05-Jan-04 |
| RCH-67 | 750100 | PP 1.5X5 | Inaccessible | Safety | 1 | RB-2 | M5 | 29-Dec-03 |
| RCH-68 | 750137 | PP 1.5X5 | Inaccessible | Safety | 1 | RB-2 | M5 | 05-Jan-04 |
| RCH-69 | 760192 | PP 1.5X5 | Inaccessible | Safety | 1 | RB-2 | M5 | 18-Nov-07 |
| RCH-70 | 750119 | PP 1.5X5 | Inaccessible | Safety | 1 | RB-2 | M5 | 16-Oct-99 |
| RCH-71L | 730076 | PP 2X5 | Inaccessible | Safety | 1 | RB-2 | M5 | 31-Dec-03 |
| RCH-71U | 750083 | PP 2X5 | Inaccessible | Safety | 1 | RB-2 | M5 | 19-Oct-99 |
| RCH-73 | 730145 | PP 1.5X5 | Inaccessible | Safety | 1 | RB-2 | M5 | 18-Nov-07 |
| RCH-74 | 730139 | PP 1.5X5 | Inaccessible | Safety | 1 | RB-2 | M5 | 02-Oct-01 |
| RCH-76 | 730014 | PP 1.5X5 | Inaccessible | Safety | 1 | RB-2 | M5 | 11-Oct-01 |
| RCH-77 | 730129 | PP 1.5X5 | Inaccessible | Safety | 1 | RB-2 | M6 | 30-Dec-03 |
| RCH-78 | 730124 | PP 1.5X5 | Inaccessible | Safety | 1 | RB-2 | M5 | 25-Oct-99 |
| RCH-79 | 730150 | PP 1.5X5 | Inaccessible | Safety | 1 | RB-2 | M5 | 31-Dec-03 |
| RCH-80 | 30700257/021 | 3038 | Inaccessible | Safety | 1 | RB-2 | M5 | 29-Nov-07 |
| RCH-81 | 30700257/022 | 3038 | Inaccessible | Safety | 1 | RB-2 | M5 | 30-Nov-07 |
| RCH-84 | 30500067/03 | 3042 | Inaccessible | Safety Sig | 4 | RB | M3 | 20-Oct-09 |
| RCH-86 | 03616013/005 | 3052 | Inaccessible | Safety Sig | 4 | RB | M4 | 04-Nov-05 |
| RCH-89 | 30600186/025 | 3038 | Inaccessible | Safety Sig | 4 | RB | M3 | 09-Nov-09 |
| RCH-90 | 30800124/018 | 3038 | Inaccessible | Safety Sig | 4 | RB | M3 | 09-Nov-09 |
| SWH-483 | 30700257/010 | 3038 | Inaccessible | Safety | 2 | RB | M4 | 23-Nov-07 |
| SWH-493L | 30700257/011 | 3038 | Inaccessible | Safety | 2 | RB-2 | M7 | 22-Nov-07 |
| SWH-493U | 30700257/012 | 3038 | Inaccessible | Safety | 2 | RB-2 | M7 | 22-Nov-07 |
| SWR-423 | 760199 | PP 1.5X5 | Inaccessible | Safety | 2 | RB-2 | M5 | 11-Oct-01 |
| SWR-425 | 30700257/013 | 3038 | Inaccessible | Safety | 2 | RB-2 | M5 | 22-Nov-07 |
| SWR-440 | 740011 | PP 1.5X5 | Inaccessible | Safety | 2 | RB-2 | M5 | 29-Dec-03 |

**Attachment 3**
**Inaccessible Safety Related Large Bore Snubbers**

| Mark / Tag No | Serial No | Model | Category | Safety Classification | ASME Class | Building | Location Map No | Date Installed |
|---|---|---|---|---|---|---|---|---|
| RCH-614 | 16676626 | PM 14X4.3 | Inaccesible | Safety | 1 | RB-2 D-Ring | M4 | 4/8/96 |
| RCH-618 | 16676624 | PM 14X4.3 | Inaccesible | Safety | 1 | RB-2 | M4 | 10/15/99 |
| RCH-619 | 16676623 | PM 14X4.3 | Inaccesible | Safety | 1 | RB-2 | M4 | 10/19/99 |
| RCH-620 | 16676627 | PM 14X4.3 | Inaccesible | Safety | 1 | RB-2 I/S B-D-Ring | M4 | 4/1/96 |

**Attachment 4**
**Non Safety Related Snubbers**

| Mark / Tag No | Serial No | Model | Category | Safety Classification | ASME Class | Building | Location Map No | Date Installed |
|---|---|---|---|---|---|---|---|---|
| HVR-10N | 760098 | PP 2X5 | Accessible | Non-Safety | 4 | TB | M22 | 09-Jul-91 |
| HVR-10S | 760089 | PP 2X5 | Accessible | Non-Safety | 4 | TB | M22 | 09-Jul-91 |
| HVR-4 | 04616483/007 | 3038 | Accessible | Non-Safety | 4 | TB | M20 | 31-Oct-05 |
| RVR-3E | 30700210/016 | 3072 | Accessible | Non-Safety | 4 | TB | M23 | 13-Nov-07 |
| RVR-3W | 30700210/018 | 3072 | Accessible | Non-Safety | 4 | TB | M23 | 13-Nov-07 |
| RVR-4E | 30700210/019 | 3072 | Accessible | Non-Safety | 4 | TB | M23 | 13-Nov-07 |
| RVR-4W | 30700210/002 | 3072 | Accessible | Non-Safety | 4 | TB | M23 | 13-Nov-07 |
| RVR-5N | 99614230/054 | 3072 | Accessible | Non-Safety | 4 | TB | M24 | 25-Oct-07 |
| RVR-5S | 99614230/055 | 3072 | Accessible | Non-Safety | 4 | TB | M24 | 25-Oct-07 |
| RVR-6N | 99614230/056 | 3072 | Accessible | Non-Safety | 4 | TB | M24 | 25-Oct-07 |
| RVR-6S | 99614230/053 | 3072 | Accessible | Non-Safety | 4 | TB | M24 | 26-Oct-07 |

**Attachment 5**
**Snubber Seal Life Information**

| Mark / Tag No | Serial No | Model | Date Rebuilt | Rebuild WR/WO | Next Rebuild |
|---|---|---|---|---|---|
| BSH-14 | 30500067/09 | 3042 | 4/13/2005 | Install-600883 | 4/13/2026 |
| BSH-19 | 30500067/04 | 3042 | 4/13/2005 | Install-600886 | 4/13/2026 |
| BSR-31 | 30700004/006 | 3038 | 8/30/2007 | Install-1350890 | 8/30/2028 |
| BSR-35 | 30700257/024 | 3038 | 8/28/2007 | Install-1350889 | 8/28/2028 |
| CFH-14 | 740047 | PP 2.5X5 | 9/27/1999 | 359307 | 9/27/2017 |
| CFH-15 | 750046 | PP 4X5 (2") | 8/31/2001 | 368284 | 8/31/2019 |
| CFH-16 | 30600572/006 | 3052 | 12/5/2006 | Install 888598 | 12/5/2027 |
| CFH-17 | 730018 | PP 4X5 (1.75") | 10/26/1999 | 359805 | 10/26/2017 |
| CFH-18 | 720083 | PP 2.5X5 | 7/6/1999 | 359303 | 7/6/2017 |
| CFH-19 | 720105 | PP 4X5 (1.75") | 9/30/2003 | 324958-01 | 9/30/2021 |
| DCR-33E | 30700257/017 | 3038 | 8/27/2007 | Install 888599 | 8/27/2028 |
| DCR-33W | 30700257/018 | 3038 | 8/28/2007 | Install 888600 | 8/28/2028 |
| DHH-17 | 30800997/004 | 3042 | 11/5/2008 | Install-1350887 | 11/5/2029 |
| DHH-18 | 30500067/06 | 3042 | 4/13/2005 | Install-600834 | 4/13/2026 |
| DHH-23 | 30800997/005 | 3042 | 11/5/2008 | Install-1350886 | 11/5/2029 |
| DHH-25 | 30500067/10 | 3042 | 4/12/2005 | Install-600888 | 4/12/2026 |
| DHH-26H | 30500067/08 | 3042 | 4/13/2005 | Install-600869 | 4/13/2026 |
| DHH-26V | 30700296/015 | 3042 | 10/2/2007 | Install 888601 | 10/2/2028 |
| DHH-27 | 30700636/016 | 3042 | 2/28/2008 | Install-1350885 | 2/28/2029 |
| DHH-35 | 30700257/019 | 3038 | 8/27/2007 | Install 888602 | 8/27/2028 |
| DHH-36 | 720128 | PP 1.5X5 | 7/8/1999 | 359282 | 7/8/2017 |
| DHH-37 | 750120 | PP 1.5X5 | 9/19/2003 | 324368-13 | 9/19/2021 |
| DHH-38 | 30700257/020 | 3038 | 8/28/2007 | Install 888603 | 8/28/2028 |

**Attachment 5**
**Snubber Seal Life Information**

| Mark / Tag No | Serial No | Model | Date Rebuilt | Rebuild WR/WO | Next Rebuild |
|---|---|---|---|---|---|
| DHH-39 | 750104 | PP 1.5X5 | 10/25/1999 | 359844 | 10/25/2017 |
| DHR-18 | 30700257/001 | 3038 | 8/27/2007 | Install 888604 | 8/27/2028 |
| DHR-21 | 30700636/017 | 3042 | 2/28/2008 | Install-1350884 | 2/28/2029 |
| DHR-24L | 30800124/019 | 3038 | 5/21/2008 | Install-1350882 | 5/21/2029 |
| DHR-24U | 30700492/020 | 3038 | 1/9/2008 | Install-1350879 | 1/9/2029 |
| DHR-28 | 30700257/002 | 3038 | 8/27/2007 | Install 888605 | 8/27/2028 |
| DHR-31 | 30700492/004 | 3038 | 1/8/2008 | Install-1350878 | 1/8/2029 |
| DHR-37 | 30700257/003 | 3038 | 8/27/2007 | Install 888606 | 8/27/2028 |
| DHR-49 | 30700257/004 | 3038 | 8/27/2007 | Install 888607 | 8/27/2028 |
| DHR-64 | 30900553/009 | 3018 | 11/16/2009 | Install-1625935 | 11/16/2030 |
| EFH-109 | 740004 | PP 1.5X5 | 8/29/2001 | 368398 | 8/29/2019 |
| EFH-110 | 30700257/006 | 3038 | 8/27/2007 | Install 888608 | 8/27/2028 |
| EFH-141 | 750122 | PP 1.5X5 | 10/4/2001 | 369631 | 10/4/2019 |
| EFH-143 | 30700257/007 | 3038 | 8/27/2007 | Install 888611 | 8/27/2028 |
| EFH-144 | 30700257/008 | 3038 | 8/27/2007 | Install 888609 | 8/27/2028 |
| EFH-27 | 30800997/006 | 3042 | 3/31/2009 | Install-1650433 | 3/31/2030 |
| EFH-28 | 30800997/007 | 3042 | 3/31/2009 | Install-1650434 | 3/31/2030 |
| EFH-92 | 04616483/009 | 3038 | 9/1/2004 | Install-657107 | 9/1/2025 |
| EFH-93 | 30700257/005 | 3038 | 8/27/2007 | Install 888612 | 8/27/2028 |
| EFH-94 | 30700492/017 | 3038 | 2/2/2009 | Install-1629868 | 2/2/2030 |
| EFH-95 | 750071 | PP 2X5 | 9/16/2003 | 325194-11 | 9/16/2021 |
| FWH-122 | 30800568/005 | 3072 | 10/6/2008 | Install-1350877 | 10/6/2029 |
| FWH-123 | 30700113/005 | 3062 | 6/8/2007 | Install-1458009 | 6/8/2028 |
| FWH-124 | 30500001/02 | 3052 | 2/24/2005 | Install-600847 | 2/24/2026 |

**Attachment 5**
**Snubber Seal Life Information**

| Mark / Tag No | Serial No | Model | Date Rebuilt | Rebuild WR/WO | Next Rebuild |
|---|---|---|---|---|---|
| FWH-125 | 730022 | PP 5X5 | 10/28/1999 | 359779 | 10/28/2017 |
| FWH-128 | 30700661/008 | 3052 | 3/10/2008 | Install-1350876 | 3/10/2029 |
| FWH-130 | 04616373/007 | 3062 | 5/6/2004 | Install-600895 | 5/6/2025 |
| FWH-131 | 30600313/004 | 3062 | 10/25/2006 | Install 888613 | 10/25/2027 |
| FWH-132 | 30600572/010 | 3052 | 12/5/2006 | Install 888614 | 12/5/2027 |
| FWH-133 | 720087 | PP 5X5 | 10/29/1999 | 359733 | 10/29/2017 |
| FWH-138 | 03616013/009 | 3052 | 12/18/2003 | Install-600871 | 12/18/2024 |
| FWH-139 | 30700296/007 | 3042 | 10/1/2007 | Install 888615 | 10/1/2028 |
| FWH-140 | 30700636/009 | 3042 | 2/28/2008 | Install-1350874 | 2/28/2029 |
| FWH-141 | 30700661/001 | 3052 | 3/7/2008 | Install-1350873 | 3/7/2029 |
| FWH-142 | 30700636/028 | 3042 | 2/28/2008 | Install-1350872 | 2/28/2029 |
| FWH-143 | 30500067/07 | 3042 | 4/13/2005 | Install-600835 | 4/13/2026 |
| FWH-144 | 30500067/002 | 3042 | 4/12/2005 | Install-600873 | 4/12/2026 |
| FWH-145 | 30800511/030 | 3052 | 9/8/2008 | Install-1350868 | 9/8/2029 |
| FWH-146 | 30700636/027 | 3042 | 2/28/2008 | Install-1351146 | 2/28/2029 |
| FWH-147A | 30800511/026 | 3052 | 9/8/2008 | Install-1350866 | 9/8/2029 |
| FWH-148 | 30600231/012 | 3042 | 7/24/2006 | Install 888616 | 7/24/2027 |
| FWH-149 | 03616013/010 | 3052 | 12/18/2003 | Install-600875 | 12/18/2024 |
| FWH-150 | 30500067/001 | 3042 | 4/12/2005 | Install-600876 | 4/12/2026 |
| FWH-151 | 30700636/025 | 3042 | 2/28/2008 | Install-1350865 | 2/28/2029 |
| FWH-152 | 0361013/007 | 3052 | 12/19/2003 | Install-657111 | 12/19/2024 |
| FWH-153 | 30400010/02 | 3042 | 2/3/2005 | Install-600877 | 2/3/2026 |
| FWH-154 | 30400010/03 | 3042 | 4/12/2005 | Install-600878 | 4/12/2026 |
| FWH-155 | 30400010/08 | 3042 | 2/2/2005 | Install-657113 | 2/2/2026 |

**Attachment 5**
**Snubber Seal Life Information**

| Mark / Tag No | Serial No | Model | Date Rebuilt | Rebuild WR/WO | Next Rebuild |
|---|---|---|---|---|---|
| FWH-156 | 30400010/10 | 3042 | 2/2/2005 | Install-657114 | 2/2/2026 |
| FWH-157 | 30400010/09 | 3042 | 2/2/2005 | Install-600879 | 2/2/2026 |
| FWH-158 | 04616373/005 | 3062 | 5/6/2004 | Install-600890 | 5/6/2025 |
| FWH-159 | 30600572/005 | 3052 | 12/5/2006 | Install 888618 | 12/5/2027 |
| FWH-160 | 30700636/026 | 3042 | 2/28/2008 | Install-1350862 | 2/28/2029 |
| FWH-161 | 30400010/04 | 3042 | 2/3/2005 | Install-600880 | 2/3/2026 |
| FWH-162 | 30600231/008 | 3052 | 7/21/2006 | Install 888619 | 7/21/2027 |
| FWH-163 | 30700661/005 | 3052 | 3/10/2008 | Install-1350860 | 3/10/2029 |
| FWH-164 | 30800511/028 | 3052 | 9/8/2008 | Install-1350859 | 9/8/2029 |
| FWH-165 | 03615923/017 | 3052 | 10/16/2003 | Install-600881 | 10/16/2024 |
| FWH-166 | 30500067/05 | 3042 | 4/13/2005 | Install-657115 | 4/13/2026 |
| FWH-167 | 03615923/020 | 3052 | 10/16/2003 | Install-600836 | 10/16/2024 |
| FWH-168 | 03616013/013 | 3052 | 11/17/2003 | Install-600838 | 11/17/2024 |
| FWH-169 | 30700636/030 | 3042 | 2/28/2008 | Install-1350858 | 2/28/2029 |
| FWH-170 | 30700636/029 | 3042 | 2/28/2008 | Install-1350857 | 2/28/2029 |
| FWH-171 | 30800289/001 | 3042 | 6/26/2008 | Install-1350856 | 6/26/2029 |
| HVR-10N | 760098 | PP 2X5 | 6/13/1991 | 271786 | 6/13/2013 |
| HVR-10S | 760089 | PP 2X5 | 4/30/1991 | 271788 | 4/30/2013 |
| HVR-4 | 04616483/007 | 3038 | 9/1/2004 | Install-600839 | 9/1/2025 |
| MSH-117 | 760190 | PP 5X15 | 9/1/2001 | 368288 | 9/1/2019 |
| MSH-118 | 30600707/038 | 3053 | 3/16/2007 | Install 888761 | 3/16/2028 |
| MSH-119 | 30600707/039 | 3053 | 3/16/2007 | Install 888760 | 3/16/2028 |
| MSH-120 | 30600707/040 | 3053 | 3/16/2007 | Install 888755 | 3/16/2028 |
| MSH-121 | 30600231/007 | 3052 | 7/21/2006 | Install 888754 | 7/21/2027 |

**Attachment 5**
**Snubber Seal Life Information**

| Mark / Tag No | Serial No | Model | Date Rebuilt | Rebuild WR/WO | Next Rebuild |
|---|---|---|---|---|---|
| MSH-122 | 03615923/019 | 3052 | 10/16/2003 | Install-600868 | 10/16/2024 |
| MSH-123 | 30700296/009 | 3042 | 10/1/2007 | Install 888726 | 10/1/2028 |
| MSH-124 | 30900002/004 | 3042 | 4/1/2009 | Install-1636508 | 4/1/2030 |
| MSH-125 | 30600231/001 | 3052 | 7/21/2006 | Install 888722 | 7/21/2027 |
| MSH-126A | 30700113/006 | 3062 | 6/8/2007 | Install-1350847 | 6/8/2028 |
| MSH-128 | 30700296/014 | 3042 | 10/2/2007 | Install 888721 | 10/2/2028 |
| MSH-139 | 04616373/003 | 3062 | 5/6/2004 | Install-600849 | 5/6/2025 |
| MSH-147 | 30700113/007 | 3062 | 6/8/2007 | Install-1350846 | 6/8/2028 |
| MSH-149 | 30600231/016 | 3052 | 7/24/2006 | Install 888807 | 7/24/2027 |
| MSH-150 | 30800511/029 | 3052 | 9/8/2008 | Install-1350843 | 9/8/2029 |
| MSH-159 | 03615643/030 | 3062 | 4/23/2003 | Install-600850 | 4/23/2024 |
| MSH-160 | 04616493/079 | 3062 | 11/25/2004 | Install 888765 | 11/25/2025 |
| MSH-162 | 30700113/003 | 3062 | 6/8/2007 | Install-1458010 | 6/8/2028 |
| MSH-164 | 30600231/013 | 3052 | 7/24/2006 | Install 888771 | 7/24/2027 |
| MSH-165 | 30700113/008 | 3062 | 6/8/2007 | Install-1350841 | 6/8/2028 |
| MSH-166 | 02615453/02 | 3082-DR | 12/1/2003 | Install-600844 | 12/1/2024 |
| MSH-167 | 30800568/011 | 3072 | 10/10/2008 | Install-1350840 | 10/10/2029 |
| MSH-168 | 04616593/10 | 3072 | 12/14/2004 | Install 888774 | 12/14/2025 |
| MSH-170 | 04616453/010 | 3072 | 6/14/2004 | Install-600902 | 6/14/2025 |
| MSH-207 | 04616483/010 | 3038 | 9/2/2004 | Install-600788 | 9/2/2025 |
| MSH-212 | 730131 | PP 1.5X5 | 10/4/2001 | 369632 | 10/4/2019 |
| MSH-213 | 730029 | PP 2X5 | 9/12/2001 | 369624 | 9/12/2019 |
| MSH-214 | 760088 | PP 2X5 | 8/24/2001 | 368392 | 8/24/2019 |
| MSH-223 | 04616373/004 | 3062 | 5/6/2004 | Install-600897 | 5/6/2025 |

**Attachment 5**
**Snubber Seal Life Information**

| Mark / Tag No | Serial No | Model | Date Rebuilt | Rebuild WR/WO | Next Rebuild |
|---|---|---|---|---|---|
| MSH-224 | 30700210/017 | 3072 | 7/19/2007 | Install 888779 | 7/19/2028 |
| MSH-225 | 30600707/041 | 3053 | 3/16/2007 | Install 888643 | 3/16/2028 |
| MSH-226E | 30700296/016 | 3042 | 10/2/2007 | Install 888773 | 10/2/2028 |
| MSH-226W | 30700296/017 | 3042 | 10/2/2007 | Install 888781 | 10/2/2028 |
| MSH-227 | 720069 | PP 5X5 | 10/4/2001 | 368299 | 10/4/2019 |
| MSH-228 | 30700113/009 | 3062 | 6/8/2007 | Install-1350837 | 6/8/2028 |
| MSH-229 | 30600313/003 | 3062 | 10/25/2006 | Install 888809 | 10/25/2027 |
| MSH-230 | 04616413/03 | 3063 | 5/19/2004 | Install-657119 | 5/19/2025 |
| MSH-231 | 30500001/01 | 3052 | 2/24/2005 | Install-657125 | 2/24/2026 |
| MSH-232 | 30800568/003 | 3072 | 10/3/2008 | Install-1350835 | 10/3/2029 |
| MSH-233 | 840001 | PP 5X5 | 11/26/1997 | POF0700780 | 11/26/2015 |
| MSH-234 | 760067 | PP 5X5 | 10/3/2001 | 368300 | 10/3/2019 |
| MSH-235 | 30600572/009 | 3052 | 12/5/2006 | Install 888719 | 12/5/2027 |
| MSH-237 | 760068 | PP 5X5 | 10/10/2001 | 368297 | 10/10/2019 |
| MSH-238 | 720066 | PP 5X5 | 9/10/2001 | 368289 | 9/10/2019 |
| MSH-239 | 30600231/017 | 3052 | 7/24/2006 | Install 888808 | 7/24/2027 |
| MSH-240 | 30700113/004 | 3062 | 6/8/2007 | Install-1350833 | 6/8/2028 |
| MSH-243 | 30600313/002 | 3062 | 10/25/2006 | Install 888625 | 10/25/2027 |
| MSH-248 | 30700257/025 | 3038 | 8/28/2007 | Install-1350832 | 8/28/2028 |
| MSH-250 | 30800124/020 | 3038 | 5/21/2008 | Install-1350831 | 5/21/2029 |
| MSH-251 | 30600572/007 | 3052 | 12/5/2006 | Install 888626 | 12/5/2027 |
| MSH-252 | 30800124/007 | 3038 | 5/20/2008 | Install-1350823 | 5/20/2029 |
| MSH-255 | 04616483/014 | 3038 | 9/2/2004 | Install-600858 | 9/2/2025 |
| MSH-567L | 04616483/011 | 3038 | 9/2/2004 | Install-600820 | 9/2/2025 |

**Attachment 5**
**Snubber Seal Life Information**

| Mark / Tag No | Serial No | Model | Date Rebuilt | Rebuild WR/WO | Next Rebuild |
|---|---|---|---|---|---|
| MSH-567U | 04616323/019 | 3038 | 3/26/2004 | Install-600861 | 3/26/2025 |
| MSH-568L | 04616483/013 | 3038 | 9/2/2004 | Install-600804 | 9/2/2025 |
| MSH-568U | 04616483/015 | 3038 | 9/2/2004 | Install-600815 | 9/2/2025 |
| MSH-576L | 04616483/016 | 3038 | 9/2/2004 | Install-600818 | 9/2/2025 |
| MSH-576U | 04616483/012 | 3038 | 9/2/2004 | Install-756023 | 9/2/2025 |
| MSH-664 | 30700257/014 | 3038 | 8/27/2007 | Install 888627 | 8/27/2028 |
| MSH-665 | 30700257/015 | 3038 | 8/27/2007 | Install 888753 | 8/27/2028 |
| MUH-32 | 30700257/009 | 3038 | 8/27/2007 | Install 888752 | 8/27/2028 |
| MUH-51 | 04616353/021 | 3018 | 12/22/2004 | Install-723627 | 12/22/2025 |
| MUH-80 | 720125 | PP 1.5X5 | 10/10/2001 | 368311 | 10/10/2019 |
| MUH-82 | 30700296/001 | 3042 | 10/1/2007 | Install 888822 | 10/1/2028 |
| RCH-29 | 750082 | PP 2X5 | 7/16/1999 | 359117 | 7/16/2017 |
| RCH-47N | 740069 | PP 2.5X5 | 10/9/1999 | 359827 | 10/9/2017 |
| RCH-47S | 740080 | PP 2.5X5 | 9/23/2003 | 324894-16 | 9/23/2021 |
| RCH-48 | 720139 | PP 2.5X5 | 9/22/2003 | 324894-13 | 9/22/2021 |
| RCH-49 | 740065 | PP 2.5X5 | 9/22/1999 | 359819 | 9/22/2017 |
| RCH-530 | 30700257/016 | 3038 | 8/27/2007 | Install 888820 | 8/27/2028 |
| RCH-531 | 30700257/023 | 3038 | 8/28/2007 | Install 888628 | 8/28/2028 |
| RCH-55 | 03616013/012 | 3052 | 12/18/2003 | Install-600841 | 12/18/2024 |
| RCH-58 | 03616013/015 | 3052 | 12/18/2003 | Install-600842 | 12/18/2024 |
| RCH-60 | 720111 | PP 2X5 | 2/17/1999 | 343033 | 2/17/2017 |
| RCH-614 | 16676626 | PM 14X4.3 | 11/7/2005 | 600908 | 5/7/2014 |
| RCH-618 | 16676624 | PM 14X4.3 | 11/14/2007 | 216375 | 5/14/2016 |
| RCH-619 | 16676623 | PM 14X4.3 | 10/13/2009 | 216376 | 4/13/2018 |

**Attachment 5**
**Snubber Seal Life Information**

| Mark / Tag No | Serial No | Model | Date Rebuilt | Rebuild WR/WO | Next Rebuild |
|---|---|---|---|---|---|
| RCH-620 | 16676627 | PM 14X4.3 | 11/10/2005 | 600915 | 5/10/2014 |
| RCH-63 | 760094 | PP 2X5 | 9/17/2003 | 325194-16 | 9/17/2021 |
| RCH-64 | 760041 | PP 2X5 | 8/25/2001 | 368391 | 8/25/2019 |
| RCH-65 | 760197 | PP 1.5X5 | 7/12/1999 | 359292 | 7/12/2017 |
| RCH-66 | 730228 | PP 1.5X5 | 10/18/2001 | 368314 | 10/18/2019 |
| RCH-67 | 750100 | PP 1.5X5 | 9/19/2003 | 324368-12 | 9/19/2021 |
| RCH-68 | 750137 | PP 1.5X5 | 9/24/2003 | 324368-17 | 9/24/2021 |
| RCH-69 | 760192 | PP 1.5X5 | 10/18/2003 | 322430-01 | 10/18/2021 |
| RCH-70 | 750119 | PP 1.5X5 | 6/14/1999 | 359290 | 6/14/2017 |
| RCH-71L | 730076 | PP 2X5 | 2/26/1999 | 359114 | 2/26/2017 |
| RCH-71U | 750083 | PP 2X5 | 7/16/1999 | 360135 | 7/16/2017 |
| RCH-73 | 730145 | PP 1.5X5 | 10/17/2003 | 322350-01 | 10/17/2021 |
| RCH-74 | 730139 | PP 1.5X5 | 9/26/2001 | 368296 | 9/26/2019 |
| RCH-76 | 730014 | PP 1.5X5 | 10/22/1999 | 359785 | 10/22/2017 |
| RCH-77 | 730129 | PP 1.5X5 | 10/19/2001 | 369630 | 10/19/2019 |
| RCH-78 | 730124 | PP 1.5X5 | 9/20/1999 | 359285 | 9/20/2017 |
| RCH-79 | 730150 | PP 1.5X5 | 10/6/2001 | 368310 | 10/6/2019 |
| RCH-80 | 30700257/021 | 3038 | 8/28/2007 | Install 888631 | 8/28/2028 |
| RCH-81 | 30700257/022 | 3038 | 8/28/2007 | Install 888632 | 8/28/2028 |
| RCH-84 | 30500067/03 | 3042 | 4/12/2005 | Install-600823 | 4/12/2026 |
| RCH-86 | 03616013/005 | 3052 | 12/19/2003 | Install-600843 | 12/19/2024 |
| RCH-89 | 30600186/025 | 3038 | 7/18/2006 | Install-1350806 | 7/18/2027 |
| RCH-90 | 30800124/018 | 3038 | 5/21/2008 | Install-1350804 | 5/21/2029 |
| RVR-3E | 30700210/016 | 3072 | 7/18/2007 | Install 888633 | 7/18/2028 |

**Attachment 5**
**Snubber Seal Life Information**

| Mark / Tag No | Serial No | Model | Date Rebuilt | Rebuild WR/WO | Next Rebuild |
|---|---|---|---|---|---|
| RVR-3W | 30700210/018 | 3072 | 7/19/2007 | Install 888634 | 7/19/2028 |
| RVR-4E | 30700210/019 | 3072 | 7/19/2007 | Install 888635 | 7/19/2028 |
| RVR-4W | 30700210/002 | 3072 | 7/19/2007 | Install 888636 | 7/19/2028 |
| RVR-5N | 99614230/054 | 3072 | 12/15/1999 | Mfg. | 12/15/2020 |
| RVR-5S | 99614230/055 | 3072 | 12/15/1999 | Mfg. | 12/15/2020 |
| RVR-6N | 99614230/056 | 3072 | 2/4/2000 | Mfg. | 2/4/2021 |
| RVR-6S | 99614230/053 | 3072 | 12/15/1999 | Mfg. | 12/15/2020 |
| SWH-483 | 30700257/010 | 3038 | 8/27/2007 | Install 888638 | 8/27/2028 |
| SWH-493L | 30700257/011 | 3038 | 8/27/2007 | Install 888639 | 8/27/2028 |
| SWH-493U | 30700257/012 | 3038 | 8/27/2007 | Install 888640 | 8/27/2028 |
| SWR-18 | 30700296/002 | 3042 | 10/1/2007 | Install 888641 | 10/1/2028 |
| SWR-423 | 760199 | PP 1.5X5 | 7/13/1999 | 359293 | 7/13/2017 |
| SWR-425 | 30700257/013 | 3038 | 8/27/2007 | Install 888642 | 8/27/2028 |
| SWR-440 | 740011 | PP 1.5X5 | 10/4/2001 | 368307 | 10/4/2019 |
| SWR-91 | 30800289/002 | 3042 | 6/26/2008 | Install-1350803 | 6/26/2029 |

## Attachment 6
## Snubbers Location Information

| Mark / Tag No | Exam No | Bldg. | Location Description | Category | Isometric | 302 Dwg. | 304 Dwg. | 305 Dwg. |
|---|---|---|---|---|---|---|---|---|
| AUXILIARY BUILDING | | | | | | | | |
| BSR-31 | 11401 | AB | 'A' Decay Heat Pit, Sth of Ladder in OH | Safety | CR3-P-SKH-120.1 | 302-651.1, 302-711.1 | | 305-810 |
| BSR-35 | 11402 | AB | 'B' Decay Heat Pit, 14' NE of Ladder | Safety | CR3-P-SKH-121.1 | 302-711 | | PI-305-811 |
| DCR-33E | 11404 | AB | RC Bleed Tank Room, Between Tanks B/C | Safety | CR3-P-SKH-201.2 | 302-631 | | 305-845 SH.2 |
| DCR-33W | 11405 | AB | RC Bleed Tank Room, Between Tanks B/C | Safety | CR3-P-SKH-201.2 | 302-631 | | 305-845 SH.2 |
| DHR-18 | 11407 | AB | 'B' Decay Heat Pit, Over E Side of DHHE-1B | Safety | CR3-P-SKH-110.1 | 302-641.1, 302-641.2 | | 305-816, 305-805 / 817 |
| DHR-21 | 11408 | AB | Triangle RM by 'B' S.I. Filter Next to DHV-39 | Safety | CR3-P-SKH-111.2 | 302-641.2 | | 305-815 |
| DHR-24L | 11409 | AB | S Wall Deborating Demin V.Alley | Safety | CR3-P-SKH-111.1 | 302-621.1, 302-641.2 | | 305-815 |
| DHR-24U | 11410 | AB | S Wall Deborating Demin V.Alley | Safety | CR3-P-SKH-111.1 | 302-621.1, 302-641.2 | | 305-815 |
| DHR-28 | 11411 | AB | StairWell to 143' Elev O/H by Dressout | Safety | CR3-P-SKH-111.1 | 302-621.1, 302-641.2 | | 305-815 |
| DHR-31 | 11412 | AB | 'A' Decay Heat Pit, Sth of Ladder OH | Safety | CR3-P-SKH-109.2 | 302-641.1, 302-614.2 | | 305-814 SH.1 |
| DHR-37 | 11413 | AB | 'B' Decay Heat Pit, Sth End of Room | Safety | CR3-P-SKH-113.1 | 302-641.1 | | 305-817 SH.6 |
| DHR-49 | 11414 | AB | 'A' Decay Heat Pit, Sth End of Room | Safety | CR3-P-SKH-112.2 | 302-641.1 | | 305-818 SH.5 |
| SWR-18 | 11415 | AB | SeaWater Room, 15' NW of SWHE-1A / 1B | Safety | CR3-P-SKH-211.1 | 302-601.1 | 304-601 SH-1 G-4 | 305-931 |
| SWR-91 | 11416 | AB | Entrance to Block Orifice Room | Safety | CR3-P-SKH-208.1 | 302-601.4 | | 305-937 |
| INTERMEDIATE BUILDING | | | | | | | | |
| EFH-109 | 11303 | IB | 2' W of MSV-412 in OH | Safety Sig | CR3-P-SKH-108.4 | 302-081.1, 302-082.1 | 304-091 H-3 | 305-902 |

## Attachment 6
## Snubbers Location Information

| Mark / Tag No | Exam No | Bldg. | Location Description | Category | Isometric | 302 Dwg. | 304 Dwg. | 305 Dwg. |
|---|---|---|---|---|---|---|---|---|
| EFH-110 | 11304 | IB | Between MSV-411/412 | Safety Sig | CR3-P-SKH-108.4 | 302-081.1, 302-082.1 | 304-091 H-5 | 305-902 |
| EFH-141 | 11305 | IB | Near FWV-34, Work From Grate | Safety Sig | CR3-P-SKH-108.4 | 302-081.1, 302-082.1 | 304-091 H-10 | 305-902 |
| EFH-143 | 11306 | IB | Over Stairs W of MSV-412 | Safety Sig | CR3-P-SKH-304.1 | 302-081.1, 302-082.1 | 304-091 H-3 | 305-905 |
| EFH-144 | 11307 | IB | O/H Above MSIV Platform, Next to FWV-39 | Safety Sig | CR3-P-SKH-108.4 | 302-081.1, 302-082.1 | 304-091 J-3 | 305-902 |
| EFH-92 | 11308 | IB | 11' NW of MSV-412 in O/H | Safety Sig | CR3-P-SKH-304.1 | 302-081.1, 302-082.1 | 304-091 G-3 | 305-905 |
| EFH-93 | 11309 | IB | O/H on N Wall, NW of MSV-412 | Safety Sig | CR3-P-SKH-304.1 | 302-081.1, 302-082.1 | 304-091 H-3 | 305-905 |
| EFH-94 | 11310 | IB | 6' S of MSV-411 | Safety Sig | CR3-P-SKH-304.1 | 302-081.1, 302-082.1 | 304-091 H-5 | 305-905 |
| EFH-95 | 11311 | IB | Over FWV-35 on Wall | Safety Sig | CR3-P-SKH-304.1 | 302-081.1, 302-082.1 | 304-091 G-6 | 305-905 |
| FWH-138 | 11312 | IB | N of MSV-42, O/H at Wall | Safety Sig | CR3-P-SKH-105.3 | 302-081.1 | 304-083 SH-2 D-11 | 305-832 SH.1 |
| FWH-139 | 11313 | IB | 3' E of FWV-30 Off Grate | Safety Sig | CR3-P-SKH-105.3 | 302-081.1 | 304-083 SH-2 D-10 | 305-832 SH.1 |
| FWH-140 | 11314 | IB | 8' E of FWV-31, Work From Pipe | Safety Sig | CR3-P-SKH-105.3 | 302-081.1 | 304-083 SH-2 D-10 | 305-832 SH.1 |
| FWH-141 | 11315 | IB | 3' W of FWV-31, Work From Pipe | Safety | CR3-P-SKH-105.3 | 302-081.1 | 304-083 SH-2 D-8, 304-084 | 305-832 SH.1 |
| FWH-142 | 11316 | IB | Above CICP-2A / 2B in O/H | Safety | CR3-P-SKH-105.3 | 302-081.1 | 304-083 SH-2 D-8, 304-084 | 305-832 SH.1 |
| FWH-143 | 11317 | IB | 3' E of CICP-2A / 2B in O/H | Safety | CR3-P-SKH-105.3 | 302-081.1 | 304-083 SH-2 D-8, 304-084 | 305-832 SH.1 |
| FWH-144 | 11318 | IB | 3' W (DNST) of FWV-30 Under Grate | Safety | CR3-P-SKH-105.3 | 302-081.1 | 304-083 SH-2 D-8, 304-084 | 305-832 SH.1 |

## Attachment 6
## Snubbers Location Information

| Mark / Tag No | Exam No | Bldg. | Location Description | Category | Isometric | 302 Dwg. | 304 Dwg. | 305 Dwg. |
|---|---|---|---|---|---|---|---|---|
| FWH-145 | 11319 | IB | Above CICP-2A /2B in O/H | Safety | CR3-P-SKH-105.3 | 302-081.1 | 304-083 SH-2 D-8, 304-084 | 305-832 SH.1 |
| FWH-146 | 11320 | IB | On Roof Inside Double Doors | Safety | CR3-P-SKH-105.3 | 302-081.1 | 304-083 SH-2 D-8, 304-084 | 305-832 SH.1 |
| FWH-147A | 11321 | IB | In Overhead Center of Room Above CIP-2B | Safety | CR3-P-SKH-105.2 | 302-081.1 | 304-083 SH-2 D-12, E-9,10 | 305-832 SH.1 |
| FWH-148 | 11322 | IB | In O/H 8' N of MSV-411 / 412 | Safety | CR3-P-SKH-105.2 | 302-081.1 | 304-083 SH-2 D-12, E-9,10 | 305-832 SH.1 |
| FWH-149 | 11323 | IB | In O/H By MSIV's 4' S of MSV-40 | Safety | CR3-P-SKH-105.2 | 302-081.1 | 304-083 SH-2 D-12, E-9,10 | 305-832 SH.1 |
| FWH-150 | 11324 | IB | In Overhead over MSIV's 7' above Walk at MSV-411 | Safety | CR3-P-SKH-105.2 | 302-081.1 | 304-083 SH-2 D-12, E-9,10 | 305-832 SH.1 |
| FWH-151 | 11325 | IB | 3' W of MTMC-9 in O/H | Safety | CR3-P-SKH-105.2 | 302-081.1 | 304-083 SH-2 D-12, E-9,10 | 305-832 SH.1 |
| FWH-152 | 11326 | IB | 3' W of MTMC-9 in O/H | Safety | CR3-P-SKH-105.2 | 302-081.1 | 304-083 SH-2 D-12, E-9,10 | 305-832 SH.1 |
| FWH-153 | 11327 | IB | 24' W of Single Door O/H MTMC-8 | Safety | CR3-P-SKH-105.2 | 302-081.1 | 304-083 SH-2 D-12, E-9,10 | 305-832 SH.1 |
| FWH-154 | 11328 | IB | 24' W of Single Door O/H MTMC-8 | Safety | CR3-P-SKH-105.2 | 302-081.1 | 304-083 SH-2 D-12, E-9,10 | 305-832 SH.1 |
| FWH-155 | 11329 | IB | Inside E Door on Right Wall 12' Up | Safety | CR3-P-SKH-105.2 | 302-081.1 | 304-083 SH-2 D-12, E-9,10 | 305-832 SH.1 |
| FWH-156 | 11330 | IB | Inside E Door on Right Wall 12' Up | Safety | CR3-P-SKH-105.2 | 302-081.1 | 304-083 SH-2 D-12, E-9,10 | 305-832 SH.1 |

## Attachment 6
## Snubbers Location Information

| Mark / Tag No | Exam No | Bldg. | Location Description | Category | Isometric | 302 Dwg. | 304 Dwg. | 305 Dwg. |
|---|---|---|---|---|---|---|---|---|
| FWH-157 | 11331 | IB | NE of MSV-33 O/H | Safety Sig | CR3-P-SKH-106.3 | | 304-083 SH-2 E-12 | 305-831 SH.1 |
| FWH-158 | 11332 | IB | Over MSV-33 | Safety Sig | CR3-P-SKH-106.3 | | 304-083 SH-2 E-11 | 305-831 SH.1 |
| FWH-159 | 11333 | IB | UPST of FWV-29 Under Grate | Safety Sig | CR3-P-SKH-106.3 | | 304-083 SH-2 E-10 | 305-831 SH.1 |
| FWH-160 | 11334 | IB | 6' SE of MSV-411 O/H | Safety | CR3-P-SKH-106.3 | 302-081.1 | 304-083 SH-2 E-9, 304-084 | 305-831 SH.1 |
| FWH-161 | 11335 | IB | Over CIP-2A About 12' High | Safety | CR3-P-SKH-106.3 | 302-081.1 | 304-083 SH-2 E-9, 304-084 | 305-831 SH.1 |
| FWH-162 | 11336 | IB | 8' N of CIP-2A at Ceiling | Safety | CR3-P-SKH-106.3 | 302-081.1 | 304-083 SH-2 E-9, 304-084 | 305-831 SH.1 |
| FWH-163 | 11337 | IB | In Overhead Over MSIV's, W of FWV-29 Below Grate | Safety | CR3-P-SKH-106.3 | 302-081.1 | 304-083 SH-2 E-9, 304-084 | 305-831 SH.1 |
| FWH-164 | 11338 | IB | On Roof Inside Double Doors | Safety | CR3-P-SKH-106.3 | 302-081.1 | 304-083 SH-2 E-9, 304-084 | 305-831 SH.1 |
| FWH-165 | 11339 | IB | In O/H 25' S of W Doorway, Over LRV-21 | Safety | CR3-P-SKH-106.2 | 302-081.1 | 304-083 SH-2 E-5 | 305-831 SH.1 |
| FWH-166 | 11340 | IB | Over LRHE-1, 15' O/H | Safety | CR3-P-SKH-106.2 | 302-081.1 | 304-083 SH-2 G-5 | 305-831 SH.1 |
| FWH-167 | 11341 | IB | Just S of LRHE-1 in O/H | Safety | CR3-P-SKH-106.2 | 302-081.1 | 304-083 SH-1 D-3 | 305-831 SH.1 |
| FWH-168 | 11342 | IB | Up Ladder Near Tank | Safety | CR3-P-SKH-106.2 | 302-081.1 | 304-083 SH-1 D-3 | 305-831 SH.1 |
| FWH-169 | 11343 | IB | O/H E of Leak Rate Tank, N Side of Column 310-I-2 | Safety | CR3-P-SKH-106.2 | 302-081.1 | 304-083 SH-1 D-3 | 305-831 SH.1 |
| FWH-170 | 11344 | IB | East Side of Column 310-I-2 | Safety | CR3-P-SKH-106.2 | 302-081.1 | 304-083 SH-1 E-4 | 305-831 SH.1 |

## Attachment 6
## Snubbers Location Information

| Mark / Tag No | Exam No | Bldg. | Location Description | Category | Isometric | 302 Dwg. | 304 Dwg. | 305 Dwg. |
|---|---|---|---|---|---|---|---|---|
| FWH-171 | 11345 | IB | Upst On Floor Next To FWV-146 | Safety | CR3-P-SKH-106.2 | 302-081.1 | 304-083 SH-1 | 305-831 SH.1 |
| MSH-117 | 11346 | IB | To Right Just Inside Double Doors | Safety Sig. | CR3-P-SKH-103.3 | 302-011.1 | 304-011, 304-013 | 305-752 |
| MSH-118 | 11347 | IB | To Right Just Inside Double Doors | Safety Sig. | CR3-P-SKH-104.2 | | 304-011 | 305-753 |
| MSH-119 | 11348 | IB | S Side on E Main Steam Line | Safety Sig. | | 302-011.1 | 304-011, 304-013 | 305-752 |
| MSH-120 | 11349 | IB | Three Hangers N of MSV-413 | Safety Sig. | CR3-P-SKH-104.2 | | 304-011 | HD-306-298, 305-753 |
| MSH-121 | 11350 | IB | Just N of MSV-414 | Safety Sig. | | 302-011.1 | 304-011, 304-013 | 305-752 |
| MSH-122 | 11351 | IB | Just N of MSV-413 | Safety Sig. | CR3-P-SKH-104.2 | | 304-011 | HD-306-298 |
| MSH-123 | 11352 | IB | S of MSV-413 on Same Line | Safety | CR3-P-SKH-104.2 | 302-011.1 | 304-011, 304-013 | 305-753 |
| MSH-124 | 11353 | IB | S of MSV-414 on Same Line | Safety | CR3-P-SKH-103.2 | 302-011.1 | 304-011, 304-013 | 305-752 |
| MSH-125 | 11354 | IB | Upst (S) of MSV-411 | Safety | CR3-P-SKH-102.2 | 302-011.1 | 304-011, 304-013 | 305-750 |
| MSH-126A | 11355 | IB | Just S of MSV-412 | Safety | CR3-P-SKH-101.2 | 302-011.1 | 304-011, 304-013 | 305-751 |
| MSH-128 | 11356 | IB | S of MSV-411, Next to Ladder | Safety | CR3-P-SKH-102.2 | 302-011.1 | 304-011, 304-013 | 305-750 |
| MSH-207 | 11359 | IB | 9' E of CIP-2B in O/H | Safety | CR3-P-SKH-217.1 | 302-051.1 | 304-015 G-4 | 305-825 SH.2 |
| MSH-212 | 11363 | IB | 8' S of MSV-411 | Safety | CR3-P-SKH-217.2 | 302-051.1 | 304-015 A-11 | 305-825 SH.1 |
| MSH-213 | 11364 | IB | 8' N of MSV-33 | Safety | CR3-P-SKH-217.2 | 302-051.1 | 304-015 B-11 | 305-825 SH.1 |
| MSH-214 | 11365 | IB | I.B. Above EF Pump Motor at Ceiling | Safety | CR3-P-SKH-217.2 | 302-051.1 | 304-015 C-11 | 305-825 SH.1 |

## Attachment 6
## Snubbers Location Information

| Mark / Tag No | Exam No | Bldg. | Location Description | Category | Isometric | 302 Dwg. | 304 Dwg. | 305 Dwg. |
|---|---|---|---|---|---|---|---|---|
| MSH-227 | 11366 | IB | Just DNST of MSV-413 | Safety Sig. | CR3-P-SKH-104.2 | | | 305-753 |
| MSH-231 | 11367 | IB | Through West Door, on ground past first MS line | Safety Sig. | CR3-P-SKH-103.3 | | | 305-752 |
| MSH-232 | 11368 | IB | 10' N of MSV-414 | Safety Sig. | CR3-P-SKH-103.3 | 302-011.1 | 304-011, 304-013 | 305-752 |
| MSH-240 | 11369 | IB | N Wall Between Doors, N of MSV-411 | Safety Sig. | CR3-P-SKH-102.2 | | 304-011 | 305-750 |
| MSH-248 | 11370 | IB | 10' N of MSV-48 | Safety | CR3-P-SKH-217.1 | | 304-015 J-3 | 305-825 SH.2 |
| MSH-250 | 11372 | IB | I.B. Over EF Pump Motors | Safety | CR3-P-SKH-217.2 | 302-051.1 | 304-015 B-2 | 305-825 SH.1 |
| MSH-251 | 11373 | IB | I.B. Over EF Pump Motors | Safety | CR3-P-SKH-217.2 | 302-051.1 | 304-015 B-2 | 305-825 SH.1 |
| MSH-252 | 11374 | IB | In O/H Above MSIV's, 2' S of FWV-32 | Safety | CR3-P-SKH-217.2 | 302-051.1 | 304-015 F-5 | 305-825 SH.1 |
| MSH-255 | 11377 | IB | I.B. by EF Pumps, Over MSV-439 / 440 | Safety Sig | CR3-P-SKH-217.2 | 302-051.1 | 304-053 A-5 | 305-825 SH.2 |
| MSH-664 | 11378 | IB | DNST of EFP-1 | Safety Sig. | CR3-P-SKH-237.1 | | 304-015 B-4 | HD-306-298 |
| MSH-665 | 11379 | IB | In Single Door to IB, To Right | Safety Sig. | CR3-P-SKH-237.1 | | 304-015 B-4 | HD-306-298 |
| REACTOR BUILDING | | | | | | | | |
| BSH-14 | 21100 | RB | O/S by S Stairs Close to Cont. Wall | Safety | CR3-P-SKH-121.3 | 302-711 | 304-714 | PI-305-809 |
| BSH-19 | 21102 | RB | O/S by S Stairs on Horz. Run Close to Wall | Safety | CR3-P-SKH-121.3 | 302-711 | 304-714 | PI-305-809 |
| CFH-14 | 21105 | RB | On Top of Old LDCR Roof | Safety | CR3-P-SKH-3.2 | 302-641.1, 302-702.1 | | PI-305-805 |
| DHH-17 | 21106 | RB | O/H (LD) Line W of Sth Stairs D-Ring Wall | Safety | CR3-P-SKH-113.3 | 302-641.1 | | 305-806 SH.1 |
| DHH-18 | 21107 | RB | E of AHF-1C by lot drain Valve | Safety | CR3-P-SKH-113.3 | 302-641.1 | | 305-806 SH.1 |

## Attachment 6
## Snubbers Location Information

| Mark / Tag No | Exam No | Bldg. | Location Description | Category | Isometric | 302 Dwg. | 304 Dwg. | 305 Dwg. |
|---|---|---|---|---|---|---|---|---|
| DHH-23 | 21109 | RB | RB Sump O/H | Safety | CR3-P-SKH-112.3 | 302-641.1 | 304-644 | 305-805, 305-818 |
| DHH-25 | 21111 | RB | LD Line in Overhead by S Stairs | Safety | CR3-P-SKH-113.3 | 302-641.1 | | 305-806 SH.1 |
| DHH-26H | 21112 | RB | LD Line in Overhead by S Stairs | Safety | CR3-P-SKH-113.3 | 302-641.1 | | 305-806 SH.1 |
| DHH-26V | 21113 | RB | LD Line in Overhead by S Stairs | Safety | CR3-P-SKH-113.3 | 302-641.1 | | 305-806 SH.1 |
| DHH-27 | 21114 | RB | RB Sump O/H | Safety | CR3-P-SKH-112.3 | 302-641.1 | 304-644 | 305-805, 305-818 |
| FWH-122 | 21115 | RB | O/H Between Elevator/P.H. | Safety | CR3-P-SKH-105.2 | 302-081.1 | 304-083 SH-2 D-12, E-9,10 | PI-305-829/832 |
| FWH-123 | 21116 | RB | O/H Between Elevator/P.H. | Safety | CR3-P-SKH-105.2 | 302-081.1 | 304-083 SH-2 D-12, E-9,10 | PI-305-829/832 |
| FWH-124 | 21117 | RB | O/H Between Elevator/P.H. W Wall | Safety | CR3-P-SKH-105.2 | 302-081.1 | 304-083 SH-2 D-12, E-9,10 | PI-305-829/832 |
| FWH-128 | 21120 | RB | Front of AHF 1A / S of A Core Flood Room | Safety | CR3-P-SKH-106.2 | 302-081.1 | 304-083 | PI-305-827/831 |
| FWH-130 | 21122 | RB | O/S CFT Area | Safety | CR3-P-SKH-105.1 | 302-081.1 | 304-083, 304-084 | PI-305-827 |
| FWH-131 | 21123 | RB | SW Wall O/S D-Ring O/H (across from Equip. Hatch) | Safety | CR3-P-SKH-105.1 | 302-081.1 | 304-083, 304-084 | PI-305-827 |
| FWH-132 | 21124 | RB | SW Wall O/S D-Ring O/H | Safety | CR3-P-SKH-105.1 | 302-081.1 | 304-083, 304-084 | PI-305-827 |
| MSH-139 | 21125 | RB | Behind the Cavity Cooling Fans | Safety | CR3-P-SKH-104.1 | 302-011.1, 302-011.2 | 304-011 | PI-305-804 |
| MSH-147 | 21126 | RB | Cavity Cooling Fans in Overhead O/S S Inner wall | Safety | CR3-P-SKH-103.1 | 302-011.1, 302-011.2 | 304-011 | PI-305-803 |
| MSH-149 | 21127 | RB | Under Mezz Grate | Safety | CR3-P-SKH-104.1 | 302-011.1, 302-011.2 | 304-011 | 305-804 |

## Attachment 6
## Snubbers Location Information

| Mark / Tag No | Exam No | Bldg. | Location Description | Category | Isometric | 302 Dwg. | 304 Dwg. | 305 Dwg. |
|---|---|---|---|---|---|---|---|---|
| MSH-150 | 21128 | RB | Under Mezz Grate | Safety | CR3-P-SKH-103.1 | 302-011.1, 302-011.2 | 304-011 | PI-305-803 |
| MSH-159 | 21130 | RB | O/H by Elevator | Safety | CR3-P-SKH-101.1 | 302-011.1, 302-011.2 | 304-011 | 305-802 |
| MSH-160 | 21131 | RB | O/H by Elevator | Safety | CR3-P-SKH-102.1 | 302-011.1, 302-011.2 | 304-011 | 305-801 |
| MSH-162 | 21133 | RB | O/H in front of Elevator | Safety | CR3-P-SKH-102.1 | 302-011.1, 302-011.2 | 304-011 | PI-305-801 |
| MSH-164 | 21135 | RB | Under Mezz Grate | Safety | CR3-P-SKH-102.1 | 302-011.1, 302-011.2 | 304-011 | 305-801 |
| MSH-165 | 21136 | RB | Under Mezz Grate Platform at Elevator | Safety | CR3-P-SKH-101.1 | 302-011.1, 302-011.2 | 304-011 | PI-305-802 |
| MSH-166 | 21137 | RB | SW Wall O/S D-Ring O/H (across from Equip. Hatch) | Safety | CR3-P-SKH-103.1 | 302-011.1, 302-011.2 | 304-011 | PI-305-803 |
| MSH-167 | 21138 | RB | SW Wall O/S D-Ring O/H (across from Equip. Hatch) | Safety | CR3-P-SKH-103.1 | 302-011.1, 302-011.2 | 304-011 | PI-305-803 |
| MSH-168 | 21139 | RB | SW Wall O/S D-Ring O/H | Safety | CR3-P-SKH-104.1 | 302-011.1, 302-011.2 | 304-011 | PI-305-804 |
| MSH-170 | 21141 | RB | SW Wall O/S D-Ring N of Equipment Hatch in O/H | Safety | CR3-P-SKH-104.1 | 302-011.1, 302-011.2 | 304-011 | PI-305-804 |
| MSH-243 | 21142 | RB | SW Wall O/S D-Ring O/H | Safety | CR3-P-SKH-103.1 | 302-011.1, 302-011.2 | 304-011 | 305-803 |
| MSH-567L | 21143 | RB | LD Line by S Stairs on D-Ring Wall | Safety | CR3-P-SKH-104.3 | | 304-781 | PI-305-738 |
| MSH-567U | 21144 | RB | LD Line by S Stairs on D-Ring Wall | Safety | CR3-P-SKH-104.3 | | 304-781 | PI-305-738 |
| MSH-568L | 21145 | RB | ESE of AHF-1C on D-Ring Wall | Safety | CR3-P-SKH-104.3 | | 304-781 | PI-305-738 |
| MSH-568U | 21146 | RB | ESE of AHF-1C on D-Ring Wall | Safety | CR3-P-SKH-104.3 | | 304-781 | PI-305-738 |
| MSH-576L | 21148 | RB | Over Elevator Landing on D-Ring wall | Safety | CR3-P-SKH-104.3 | | 304-781 | PI-305-738 |

## Attachment 6
## Snubbers Location Information

| Mark / Tag No | Exam No | Bldg. | Location Description | Category | Isometric | 302 Dwg. | 304 Dwg. | 305 Dwg. |
|---|---|---|---|---|---|---|---|---|
| MSH-576U | 21149 | RB | Over Elevator Landing on D-Ring wall | Safety | CR3-P-SKH-104.3 | | 304-781 | PI-305-738 |
| MUH-82 | 21167 | RB | Sump O/H | Safety | CR3-P-SKH-9.1 | 302-651.1, 302-661.1 | 304-667.1 | PI-305-871 |
| RCH-55 | 21169 | RB | O/H Behind Stairs on D-Ring Wall | Safety Sig | CR3-P-SKH-301.1 | 302-651.1, 302-681.3 | 304-851 | 305-851 |
| RCH-58 | 21170 | RB | O/H Behind Stairs on D-Ring Wall | Safety Sig | CR3-P-SKH-301.1 | 302-651.1, 302-681.1 | 304-851 | 305-851 |
| RCH-60 | 21171 | RB | Top of PZR | Safety Sig | CR3-P-SKH-302.1 | 302-651.1, 302-681.3 | | 305-852 |
| RCH-84 | 21172 | RB | Behind Stairs on D-Ring Wall | Safety Sig | CR3-P-SKH-302.1 | 302-651.1, 302-681.3 | 304-651 | PI-305-852 |
| RCH-86 | 21173 | RB | O/H by Elevator | Safety Sig | CR3-P-SKH-302.1 | 302-651.1, 302-681.3 | 304-651 | PI-305-852 |
| RCH-89 | 21174 | RB | O/H on D-Ring Wall behind N Stairs | Safety Sig | CR3-P-SKH-303.1 | 302-651.1, 302-681.3 | 304-651 | PI-305-850 |
| RCH-90 | 21175 | RB | O/H on D-Ring Wall behind N Stairs | Safety Sig | CR3-P-SKH-303.1 | 302-651.1, 302-681.3 | 304-651 | PI-305-850 |
| SWH-483 | 21176 | RB | SW Wall by Equip Hatch | Safety | CR3-P-SKH-220.2 | 302-601 | | 305-715 |
| CFH-15 | 21200 | RB-2 | I/S E Wall by RCP 1A | Safety | CR3-P-SKH-3.2 | 302-641.1, 302-702.1 | | PI-305-805 |
| CFH-16 | 21201 | RB-2 | CatWalk to PZR | Safety | CR3-P-SKH-3.1 | 302-641.1, 302-702.1 | | PI-305-805 |
| CFH-17 | 21202 | RB-2 | CatWalk South of PZR | Safety | CR3-P-SKH-3.1 | 302-641.1, 302-702.1 | | PI-305-805 |
| CFH-18 | 21203 | RB-2 | CatWalk to PZR | Safety | CR3-P-SKH-3.1 | 302-641.1, 302-702.1 | | PI-305-805 |
| CFH-19 | 21204 | RB-2 | CatWalk to PZR | Safety | CR3-P-SKH-3.1 | 302-641.1, 302-702.1 | | PI-305-805 |
| DHH-35 | 21208 | RB-2 | NW Side PZR Platform | Safety | CR3-P-SKH-19.1 | CR3-P-8091-RC | 304-644 | |
| DHH-36 | 21209 | RB-2 | NW Side PZR Platform 15' Down By RCV-12 /53 | Safety | CR3-P-SKH-19.1 | CR3-P-8091-RC | 304-644 | |

## Attachment 6
## Snubbers Location Information

| Mark / Tag No | Exam No | Bldg. | Location Description | Category | Isometric | 302 Dwg. | 304 Dwg. | 305 Dwg. |
|---|---|---|---|---|---|---|---|---|
| DHH-37 | 21210 | RB-2 | W Side PZR Platform UPST of RCV-12 | Safety | CR3-P-SKH-19.1 | CR3-P-8091-RC | 304-644 | |
| DHH-38 | 21211 | RB-2 | W Side PZR Platform | Safety | CR3-P-SKH-19.1 | CR3-P-8091-RC | 304-644 | |
| DHH-39 | 21212 | RB-2 | NS Top of PZR on Landing | Safety | CR3-P-SKH-19.1 | CR3-P-8091-RC | 304-644 | |
| DHR-64 | 21259 | RB-2 | NS Top of PZR on Landing | Safety | CR3-P-SKH-19.1 | CR3-P-8091-RC | 304-644 | |
| EFH-27 | 21213 | RB-2 | RCP 1D Outer Wall S Side of B Gen. | Safety | CR3-P-SKH-108.1 | 302-081.1 | 304-085 | PI-305-901 |
| EFH-28 | 21214 | RB-2 | RCP 1D Outer Wall S Side of B Gen. | Safety | CR3-P-SKH-108.1 | 302-081.1 | 304-085 | PI-305-901 |
| FWH-125 | 21215 | RB-2 | N Side of A D-Ring Wall | Safety | CR3-P-SKH-105.1 | 302-081.1 | 304-083, 304-084 | PI-305-829 |

## Attachment 6
## Snubbers Location Information

| Mark / Tag No | Exam No | Bldg. | Location Description | Category | Isometric | 302 Dwg. | 304 Dwg. | 305 Dwg. |
|---|---|---|---|---|---|---|---|---|
| FWH-133 | 21216 | RB-2 | N Side of D-Ring Wall by RCP-1D | Safety | CR3-P-SKH-106.1 | 302-081.1 | 304-083, 304-084 | PI-305-827 |
| MUH-32 | 21217 | RB-2 | CatWalk to PZR | Safety | CR3-P-SKH-7.1 | 302-651.1, 302-661.4 | | 305-869 |
| MUH-51 | 21223 | RB-2 | I/S E Wall by RCP 1A | Safety | CR3-P-SKH-4.1 | 302-651.1, 302-661.3 | | PI-305-874 SH-1 |
| MUH-80 | 21224 | RB-2 | I/S Wall Behind RCP-1D LD | Safety | CR3-P-SKH-9.1 | 302-651.1, 302-661.1 | 304-667.1 | PI-305-871 |
| RCH-29 | 21225 | RB-2 | Top of PZR | Safety | CR3-P-SKH-302.1 | 302-651.1, 302-681.3 | 304-651 | PI-305-852 |
| RCH-47N | 21226 | RB-2 | Surge Line at B Pump Near Hot Leg | Safety | CR3-P-SKH-18.1 | 302-651.1 | | 141585E B&W 135881-E19 |
| RCH-47S | 21227 | RB-2 | Surge Line at B Pump Near Hot Leg | Safety | CR3-P-SKH-18.1 | 302-651.1 | | 141585E B&W 135881-E19 |
| RCH-48 | 21228 | RB-2 | Surge Line at B Pump Near Hot Leg | Safety | CR3-P-SKH-18.1 | 302-651.1 | | 141585E B&W 135881-E19 |
| RCH-49 | 21229 | RB-2 | Surge Line at B Pump Near Hot Leg | Safety | CR3-P-SKH-18.1 | 302-651.1 | | 141585E B&W 135881-E19 |
| RCH-530 | 21230 | RB-2 | Top of PZR | Safety | CR3-P-SKH-19.2 | | 304-651 | 305-762 |
| RCH-531 | 21231 | RB-2 | Top of PZR | Safety | CR3-P-SKH-19.2 | | 304-651 | 305-762 |
| RCH-618 | 21233 | RB-2 | I/S by RCP-1C (L-Bore) | Safety | 135881E | RCP PUMP | RCP PUMP | RCP PUMP |
| RCH-619 | 21234 | RB-2 | I/S by RCP-1C (L-Bore) | Safety | 135881E | | | RCP PUMP |
| RCH-63 | 21236 | RB-2 | N Side of PZR Platform | Safety Sig | CR3-P-SKH-302.1 | 302-651.1, 302-681.3 | 304-651 | PI-305-852 |
| RCH-64 | 21237 | RB-2 | N Side of PZR Platform | Safety Sig | CR3-P-SKH-302.1 | 302-651.1, 302-681.3 | 304-651 | PI-305-852 |

## Attachment 6
## Snubbers Location Information

| Mark / Tag No | Exam No | Bldg. | Location Description | Category | Isometric | 302 Dwg. | 304 Dwg. | 305 Dwg. |
|---|---|---|---|---|---|---|---|---|
| RCH-65 | 21238 | RB-2 | Bottom of PZR Platform, S Side O/H | Safety | CR3-P-SKH-19.1 | CR3-P-8091-RC | | |
| RCH-66 | 21239 | RB-2 | S Side of PZR Platform | Safety | CR3-P-SKH-19.1 | CR3-P-8091-RC | | |
| RCH-67 | 21240 | RB-2 | S Side of PZR Platform | Safety | CR3-P-SKH-19.1 | CR3-P-8091-RC | | |
| RCH-68 | 21241 | RB-2 | S Side of PZR Platform | Safety | CR3-P-SKH-19.1 | CR3-P-8091-RC | | |
| RCH-69 | 21242 | RB-2 | Top of PZR - Leave SA Pin (Disconnect in place, pin mushroomed) | Safety | CR3-P-SKH-19.1 | CR3-P-8091-RC | | |
| RCH-70 | 21243 | RB-2 | Top of PZR | Safety | CR3-P-SKH-19.1 | CR3-P-8091-RC | | |
| RCH-71L | 21244 | RB-2 | Top of PZR | Safety | CR3-P-SKH-19.1 | CR3-P-8091-RC | | |
| RCH-71U | 21245 | RB-2 | Top of PZR | Safety | CR3-P-SKH-19.1 | CR3-P-8091-RC | | |
| RCH-73 | 21246 | RB-2 | Top of PZR | Safety | CR3-P-SKH-19.1 | CR3-P-8091-RC | | |
| RCH-74 | 21247 | RB-2 | Top of PZR | Safety | CR3-P-SKH-19.1 | CR3-P-8091-RC | | |
| RCH-76 | 21248 | RB-2 | S Side of PZR Platform | Safety | CR3-P-SKH-19.1 | CR3-P-8091-RC | | |
| RCH-77 | 21249 | RB-2 | Bottom of PZR Platform, S Side O/H | Safety | CR3-P-SKH-19.1 | CR3-P-8091-RC | | |
| RCH-78 | 21250 | RB-2 | S Side of PZR Platform | Safety | CR3-P-SKH-19.1 | CR3-P-8091-RC | | |
| RCH-79 | 21251 | RB-2 | S Side of PZR Platform | Safety | CR3-P-SKH-19.1 | CR3-P-8091-RC | | |
| RCH-80 | 21252 | RB-2 | Top of PZR - Removed every outage to access RCV-14 | Safety | CR3-P-SKH-19.1 | CR3-P-8091-RC | | |
| RCH-81 | 21253 | RB-2 | Top of PZR - Removed every outage to access RCV-13 | Safety | CR3-P-SKH-19.1 | CR3-P-8091-RC | | |
| SWH-493L | 21254 | RB-2 | RCP 1D Outer Wall | Safety | CR3-P-SKH-220.2 | 302-601 | | 305-715 |

## Attachment 6
## Snubbers Location Information

| Mark / Tag No | Exam No | Bldg. | Location Description | Category | Isometric | 302 Dwg. | 304 Dwg. | 305 Dwg. |
|---|---|---|---|---|---|---|---|---|
| SWH-493U | 21255 | RB-2 | RCP 1D Outer Wall | Safety | CR3-P-SKH-220.2 | 302-601 | | 305-715 |
| SWR-423 | 21256 | RB-2 | N Side of PZR D-Ring Wall at Ladder by B RCP | Safety | CR3-P-SKH-220.3 | 302-011.1 | 304-607 | 305-700 / 705 |
| SWR-425 | 21257 | RB-2 | Ladder-PZR to RCP 1B | Safety | CR3-P-SKH-220.3 | 302-011.1 | 304-607 | 305-700 / 705 |
| SWR-440 | 21258 | RB-2 | Ladder-PZR to RCP 1B | Safety | CR3-P-SKH-220.3 | 302-011.1 | 304-607 | 305-700 / 705 |
| RCH-614 | 21232 | RB-2 D-Ring | I/S by RCP-1A (L-Bore) | Safety | 135881E | | | RCP PUMP |
| RCH-620 | 21235 | RB-2 I/S B-D-Ring | I/S by RCP-1D (L-Bore) | Safety | 135881E | | | RCP PUMP |
| TURBINE BUILDING | | | | | | | | |
| HVR-10N | 12515 | TB | On Vent Line From MDT-1 | Non Safety | | | 304-118, 304-119 B-8 | |
| HVR-10S | 12516 | TB | On Vent Line From MDT-1 | Non Safety | | | 304-118, 304-119 B-8 | |
| HVR-4 | 12525 | TB | Over FWHE-6A, Above HVV-43 | Non Safety | | | 304-117 J-4 | |
| MSH-223 | 11532 | TB | On M/S Line From MSIV-413 | Safety Sig. | Location-M28 | | 304-012 SH-2 E-4 | 305-753 |
| MSH-224 | 11533 | TB | On M/S Line From MSIV-413 | Safety Sig. | Location-M28 | | 304-012 SH-2 E-4 | 305-753 |
| MSH-225 | 11534 | TB | On M/S Line From MSIV-413 | Safety Sig. | Location-M28 | | 304-012 SH-2 F-3 | 305-753 |
| MSH-226E | 11535 | TB | On M/S Line From MSIV-413 | Safety Sig. | Location-M28 | | 304-012 | 305-753 |
| MSH-226W | 11536 | TB | On M/S Line From MSIV-413 | Safety Sig. | Location-M28 | | 304-012 | 305-753 |

## Attachment 6
## Snubbers Location Information

| Mark / Tag No | Exam No | Bldg. | Location Description | Category | Isometric | 302 Dwg. | 304 Dwg. | 305 Dwg. |
|---|---|---|---|---|---|---|---|---|
| MSH-228 | 11537 | TB | Just DNST of MSV-413 | Safety Sig. | CR3-P-SKH-103.3 | | 304-012 | 305-752 |
| MSH-229 | 11538 | TB | Just DNST of MSV-413 | Safety Sig. | Location-M28 | | 304-012 | 305-752 |
| MSH-230 | 11539 | TB | Over Double Doors to IB | Safety Sig. | CR3-P-SKH-103.3 | | 304-012 SH-2 G03 | 305-752 |
| MSH-233 | 11540 | TB | Above FW Heater | Safety Sig. | CR3-P-SKH-103.3 | | 304-012 | 305-751 |
| MSH-234 | 11541 | TB | On MS Line From MSV-412 | Safety Sig. | Location-M27 | | 304-012 SH-2 E-5 | 305-751 |
| MSH-235 | 11542 | TB | On MS Line From MSV-412 | Safety Sig. | Location-M27 | | 304-012 SH-2 E-5 | 305-751 |
| MSH-237 | 11543 | TB | On MS Line From MSV-411 | Safety Sig. | Location-M27 | | 304-012 SH-2 E-5 | 305-750 |
| MSH-238 | 11544 | TB | On MS Line From MSV-411 | Safety Sig. | Location-M27 | | 304-012 SH-2 E-5 | 305-750 |
| MSH-239 | 11545 | TB | On MS Line From MSV-411 | Safety Sig. | Location-M27 | | 304-012 SH-2 E-5 | 305-750 |
| RVR-3E | 12552 | TB | On Vent Line, RHV-9 Discharge | Non Safety | | | 304-021, 304-022 D-2 | |
| RVR-3W | 12553 | TB | On Vent Line, RHV-9 Discharge | Non Safety | | | 304-021, 304-022 D-2 | |
| RVR-4E | 12554 | TB | On Vent Line, RHV-10 Discharge | Non Safety | | | 304-021, 304-022 D-2 | |
| RVR-4W | 12555 | TB | On Vent Line, RHV-10 Discharge | Non Safety | | | 304-021, 304-022 D-2 | |
| RVR-5N | 12556 | TB | On Vent Line, Turbine Building Roof | Non Safety | | | 304-021, 304-022 | |
| RVR-5S | 12557 | TB | On Vent Line, Turbine Building Roof | Non Safety | | | 304-021, 304-022 | |

## Attachment 6
## Snubbers Location Information

| Mark / Tag No | Exam No | Bldg. | Location Description | Category | Isometric | 302 Dwg. | 304 Dwg. | 305 Dwg. |
|---|---|---|---|---|---|---|---|---|
| RVR-6N | 12558 | TB | On Vent Line, Turbine Building Roof | Non Safety | | | 304-021, 304-022 | |
| RVR-6S | 12559 | TB | On Vent Line, Turbine Building Roof | Non Safety | | | 304-021, 304-022 | |

**Attachment 7**
**Safety Assessment**

[As of the issue date, no Safety Assessments were applicable for the Snubber Inspection and Testing Program]

## Attachment 8
## NRC Letter # 3F120704 Inservice Inspection Program Plan, 10 Year Update

Progress Energy

Crystal River Nuclear Plant
Docket No. 50-302
Operating License No. DPR-72

Ref: 10 CFR 50.55a

December 21, 2007
3F1207-04

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

Subject: Crystal River Unit 3 – Inservice Inspection Program Plan, Ten Year Update

Dear Sir,

Florida Power Corporation (FPC), doing business as Progress Energy Florida, Inc., is hereby submitting the Crystal River Unit 3 (CR-3) Inservice Inspection (ISI) Program Plan for the fourth ten year interval. The ISI Program Plan has been updated to meet the requirements of the 2001 Edition through the 2003 Addenda of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (B&PV) Code, in accordance with ASME Section XI Article IWA-2400, except where specific relief from the B&PV Code has been requested, pursuant to 10CFR50.55a(3). The third ten year interval will end on August 13, 2008, and the fourth ten year interval will begin on August 14, 2008.

ASME Code Cases approved by the NRC, as identified in Regulatory Guide 1.147, and which are applicable to CR-3, along with the specific Relief Requests are identified in the ISI Program Plan.

No regulatory commitments are being made in this submittal.

If you should have any questions regarding this submittal, please contact Mr. Dennis Herrin, Acting Supervisor, Licensing & Regulatory Programs, at (352) 563-4633.

Sincerely,

Stephen J. Cahill
Engineering Manager

SJC/scb

Attachment: Crystal River Unit 3 Inservice Inspection Program Plan - Fourth Ten Year Interval

xc: NRR Project Manager
Regional Administrator, Region II
Senior Resident Inspector

Progress Energy Florida, Inc.
Crystal River Nuclear Plant
15760 W. Powerline Street
Crystal River, FL 34428

A047
NRR

**Attachment 9**
**Relief Requests**

[As of the issue date, no Safety Assessments were applicable for the Snubber Inspection and Testing Program]

**Attachment 10**
**ASME XI Interpretation**

[As of the issue date, no Safety Assessments were applicable for the Snubber Inspection and Testing Program]

## Attachment 11
## Snubber Tech. Spec. Information

| TAG NO | TRAIN | LCO INFO | LINE DESC | ANALYTICAL DWG | ISI DWG | TECH SPEC | SAFETY REL. | BLDG |
|---|---|---|---|---|---|---|---|---|
| BSH-14 | B | LCO 3.0.8.a [72 hr] | | 305-809.2 | CR3-P-SKH-121.3 | Yes | Safety | RB |
| BSH-19 | B | LCO 3.0.8.a [72 hr] | | 305-809 | CR3-P-SKH-121.3 | Yes | Safety | RB |
| BSR-31 | A | LCO 3.0.8.a [72 hr] | | 305-810 | CR3-P-SKH-120.1 | Yes | Safety | AB |
| BSR-35 | B | LCO 3.0.8.a [72 hr] | | 305-811 | CR3-P-SKH-121.1 | Yes | Safety | AB |
| CFH-14 | B | LCO 3.0.8.a [72 hr] | | 305-805 SH.1 | CR3-P-SKH-3.2 | Yes | Safety | RB |
| CFH-15 | B | LCO 3.0.8.a [72 hr] | | 305-805 SH.1 | CR3-P-SKH-3.2 | Yes | Safety | RB-2 |
| CFH-16 | A | LCO 3.0.8.a [72 hr] | | 305-805 SH.2 | CR3-P-SKH-3.1 | Yes | Safety | RB-2 |
| CFH-17 | A | LCO 3.0.8.a [72 hr] | | 305-805 SH.2 | CR3-P-SKH-3.1 | Yes | Safety | RB-2 |
| CFH-18 | A | LCO 3.0.8.a [72 hr] | | 305-805 SH.2 | CR3-P-SKH-3.1 | Yes | Safety | RB-2 |
| CFH-19 | A | LCO 3.0.8.a [72 hr] | | 305-805 SH.2 | CR3-P-SKH-3.1 | Yes | Safety | RB-2 |
| DCR-33E | B | LCO 3.0.8.a [72 hr] | | 305-845 SH.2 | CR3-P-SKH-201.2 | Yes | Safety | AB |
| DCR-33W | B | LCO 3.0.8.a [72 hr] | | 305-845 SH.2 | CR3-P-SKH-201.2 | Yes | Safety | AB |
| DHH-17 | B | LCO 3.0.8.a [72 hr] | | 305-806 SH.1 | CR3-P-SKH-113.3 | Yes | Safety | RB |
| DHH-18 | B | LCO 3.0.8.a [72 hr] | | 305-806 SH.1 | CR3-P-SKH-113.3 | Yes | Safety | RB |
| DHH-23 | A | LCO 3.0.8.a [72 hr] | | 305-805, 305-818 | CR3-P-SKH-112.3 | Yes | Safety | RB |
| DHH-25 | B | LCO 3.0.8.a [72 hr] | | 305-806 SH.1 | CR3-P-SKH-113.3 | Yes | Safety | RB |
| DHH-26H | B | LCO 3.0.8.a [72 hr] | | 305-806 SH.1 | CR3-P-SKH-113.3 | Yes | Safety | RB |
| DHH-26V | B | LCO 3.0.8.a [72 hr] | | 305-806 SH.1 | CR3-P-SKH-113.3 | Yes | Safety | RB |
| DHH-27 | A | LCO 3.0.8.a [72 hr] | | 305-805, 305-818 | CR3-P-SKH-112.3 | Yes | Safety | RB |
| DHH-35 | COMM | LCO 3.0.8.b [12 hr] | Pressurizer - Aux. Spray, Upstream RCV-53 | CR3-P-8045 | CR3-P-SKH-19.1 | Yes | Safety | RB-2 |
| DHH-36 | COMM | LCO 3.0.8.b [12 hr] | Pressurizer - Aux. Spray, RCV-53 to Pressurizer | CR3-P-8045 | CR3-P-SKH-19.1 | Yes | Safety | RB-2 |
| DHH-37 | COMM | LCO 3.0.8.b [12 hr] | Pressurizer - Aux. Spray, RCV-12 to Pressurizer | CR3-P-8045 | CR3-P-SKH-19.1 | Yes | Safety | RB-2 |
| DHH-38 | COMM | LCO 3.0.8.b [12 hr] | Pressurizer - Aux. Spray, RCV-12 to Pressurizer | CR3-P-8045 | CR3-P-SKH-19.1 | Yes | Safety | RB-2 |
| DHH-39 | COMM | LCO 3.0.8.b [12 hr] | Pressurizer - Aux. Spray, RCV-12 to Pressurizer | CR3-P-8045 | CR3-P-SKH-19.1 | Yes | Safety | RB-2 |

## Attachment 11
## Snubber Tech. Spec. Information

| TAG NO | TRAIN | LCO INFO | LINE DESC | ANALYTICAL DWG | ISI DWG | TECH SPEC | SAFETY REL. | BLDG |
|---|---|---|---|---|---|---|---|---|
| DHR-18 | B | LCO 3.0.8.a [72 hr] | | 305-816, 305-805 / 817 | CR3-P-SKH-110.1 | Yes | Safety | AB |
| DHR-21 | COMM | LCO 3.0.8.b [12 hr] | | 305-815 | CR3-P-SKH-111.2 | Yes | Safety | AB |
| DHR-24L | COMM | LCO 3.0.8.b [12 hr] | | 305-815 | CR3-P-SKH-111.1 | Yes | Safety | AB |
| DHR-24U | COMM | LCO 3.0.8.b [12 hr] | | 305-815 | CR3-P-SKH-111.1 | Yes | Safety | AB |
| DHR-28 | COMM | LCO 3.0.8.b [12 hr] | | 305-815 | CR3-P-SKH-111.1 | Yes | Safety | AB |
| DHR-31 | A | LCO 3.0.8.a [72 hr] | | 305-814 SH.1 | CR3-P-SKH-109.2 | Yes | Safety | AB |
| DHR-37 | B | LCO 3.0.8.a [72 hr] | | 305-817 SH.6 | CR3-P-SKH-113.1 | Yes | Safety | AB |
| DHR-49 | A | LCO 3.0.8.a [72 hr] | | 305-818 SH.5 | CR3-P-SKH-112.2 | Yes | Safety | AB |
| DHR-64 | COMM | LCO 3.0.8.b [12 hr] | Pressurizer - Aux. Spray, RCV-12 to Pressurizer | CR3-P-8045 | CR3-P-SKH-19.1 | Yes | Safety | RB-2 |
| EFH-27 | B (LCO N/A) | LCO N/A-Transient Load Sn | | 305-901 | CR3-P-SKH-108.1 | Yes | Safety | RB-2 |
| EFH-28 | B (LCO N/A) | LCO N/A-Transient Load Sn | | 305-901 | CR3-P-SKH-108.1 | Yes | Safety | RB-2 |
| EFH-92 | A (LCO N/A) | LCO N/A-Transient Load Sn | | 305-905 | CR3-P-SKH-304.1 | Yes | Safety Sig | IB |
| EFH-93 | A (LCO N/A) | LCO N/A-Transient Load Sn | | 305-905 | CR3-P-SKH-304.1 | Yes | Safety Sig | IB |
| EFH-94 | A (LCO N/A) | LCO N/A-Transient Load Sn | | 305-905 | CR3-P-SKH-304.1 | Yes | Safety Sig | IB |
| EFH-95 | A (LCO N/A) | LCO N/A-Transient Load Sn | | 305-905 | CR3-P-SKH-304.1 | Yes | Safety Sig | IB |
| EFH-109 | B (LCO N/A) | LCO N/A-Transient Load Sn | | 305-902 | CR3-P-SKH-108.4 | Yes | Safety Sig | IB |
| EFH-110 | B (LCO N/A) | LCO N/A-Transient Load Sn | | 305-902 | CR3-P-SKH-108.4 | Yes | Safety Sig | IB |
| EFH-141 | B (LCO N/A) | LCO N/A-Transient Load Sn | | 305-902 | CR3-P-SKH-108.4 | Yes | Safety Sig | IB |
| EFH-143 | A (LCO N/A) | LCO N/A-Transient Load Sn | | 305-905 | CR3-P-SKH-304.1 | Yes | Safety Sig | IB |
| EFH-144 | B (LCO N/A) | LCO N/A-Transient Load Sn | | 305-902 | CR3-P-SKH-108.4 | Yes | Safety Sig | IB |
| FWH-122 | A | LCO 3.0.8.a [72 hr] | | 305-829 | CR3-P-SKH-105.2 | Yes | Safety | RB |
| FWH-123 | A | LCO 3.0.8.a [72 hr] | | 305-829 | CR3-P-SKH-105.2 | Yes | Safety | RB |

## Attachment 11
## Snubber Tech. Spec. Information

| TAG NO | TRAIN | LCO INFO | LINE DESC | ANALYTICAL DWG | ISI DWG | TECH SPEC | SAFETY REL. | BLDG |
|---|---|---|---|---|---|---|---|---|
| FWH-124 | A | LCO 3.0.8.a [72 hr] | | 305-829 | CR3-P-SKH-105.2 | Yes | Safety | RB |
| FWH-125 | A | LCO 3.0.8.a [72 hr] | | 305-829 | CR3-P-SKH-105.1 | Yes | Safety | RB-2 |
| FWH-128 | B | LCO 3.0.8.a [72 hr] | | 305-827 | CR3-P-SKH-106.2 | Yes | Safety | RB |
| FWH-130 | B | LCO 3.0.8.a [72 hr] | | 305-827 | CR3-P-SKH-105.1 | Yes | Safety | RB |
| FWH-131 | B | LCO 3.0.8.a [72 hr] | | 305-827 | CR3-P-SKH-105.1 | Yes | Safety | RB |
| FWH-132 | B | LCO 3.0.8.a [72 hr] | | 305-827 | CR3-P-SKH-105.1 | Yes | Safety | RB |
| FWH-133 | B | LCO 3.0.8.a [72 hr] | | 305-827 | CR3-P-SKH-106.1 | Yes | Safety | RB-2 |
| FWH-138 | A | LCO 3.0.8.a [72 hr] | | 305-832 SH.1 | CR3-P-SKH-105.3 | Yes | Safety Sig | IB |
| FWH-139 | A | LCO 3.0.8.a [72 hr] | | 305-832 SH.1 | CR3-P-SKH-105.3 | Yes | Safety Sig | IB |
| FWH-140 | A | LCO 3.0.8.a [72 hr] | | 305-832 SH.1 | CR3-P-SKH-105.3 | Yes | Safety Sig | IB |
| FWH-141 | A | LCO 3.0.8.a [72 hr] | | 305-832 SH.1 | CR3-P-SKH-105.3 | Yes | Safety | IB |
| FWH-142 | A | LCO 3.0.8.a [72 hr] | | 305-832 SH.1 | CR3-P-SKH-105.3 | Yes | Safety | IB |
| FWH-143 | A | LCO 3.0.8.a [72 hr] | | 305-832 SH.1 | CR3-P-SKH-105.3 | Yes | Safety | IB |
| FWH-144 | A | LCO 3.0.8.a [72 hr] | | 305-832 SH.1 | CR3-P-SKH-105.3 | Yes | Safety | IB |
| FWH-145 | A | LCO 3.0.8.a [72 hr] | | 305-832 SH.1 | CR3-P-SKH-105.3 | Yes | Safety | IB |
| FWH-146 | A | LCO 3.0.8.a [72 hr] | | 305-832 SH.1 | CR3-P-SKH-105.3 | Yes | Safety | IB |
| FWH-147A | A | LCO 3.0.8.a [72 hr] | | 305-832 SH.1 | CR3-P-SKH-105.2 | Yes | Safety | IB |
| FWH-148 | A | LCO 3.0.8.a [72 hr] | | 305-832 SH.1 | CR3-P-SKH-105.2 | Yes | Safety | IB |
| FWH-149 | A | LCO 3.0.8.a [72 hr] | | 305-832 SH.1 | CR3-P-SKH-105.2 | Yes | Safety | IB |
| FWH-150 | A | LCO 3.0.8.a [72 hr] | | 305-832 SH.1 | CR3-P-SKH-105.2 | Yes | Safety | IB |
| FWH-151 | A | LCO 3.0.8.a [72 hr] | | 305-832 SH.1 | CR3-P-SKH-105.2 | Yes | Safety | IB |
| FWH-152 | A | LCO 3.0.8.a [72 hr] | | 305-832 SH.1 | CR3-P-SKH-105.2 | Yes | Safety | IB |
| FWH-153 | A | LCO 3.0.8.a [72 hr] | | 305-832 SH.1 | CR3-P-SKH-105.2 | Yes | Safety | IB |
| FWH-154 | A | LCO 3.0.8.a [72 hr] | | 305-832 SH.1 | CR3-P-SKH-105.2 | Yes | Safety | IB |
| FWH-155 | A | LCO 3.0.8.a [72 hr] | | 305-832 SH.1 | CR3-P-SKH-105.2 | Yes | Safety | IB |
| FWH-156 | A | LCO 3.0.8.a [72 hr] | | 305-832 SH.1 | CR3-P-SKH-105.2 | Yes | Safety | IB |

## Attachment 11
## Snubber Tech. Spec. Information

| TAG NO | TRAIN | LCO INFO | LINE DESC | ANALYTICAL DWG | ISI DWG | TECH SPEC | SAFETY REL | BLDG |
|---|---|---|---|---|---|---|---|---|
| FWH-157 | B | LCO 3.0.8.a [72 hr] | | 305-831 SH.1 | CR3-P-SKH-106.3 | Yes | Safety Sig | IB |
| FWH-158 | B | LCO 3.0.8.a [72 hr] | | 305-831 SH.1 | CR3-P-SKH-106.3 | Yes | Safety Sig | IB |
| FWH-159 | B | LCO 3.0.8.a [72 hr] | | 305-831 SH.1 | CR3-P-SKH-106.3 | Yes | Safety Sig | IB |
| FWH-160 | B | LCO 3.0.8.a [72 hr] | | 305-831 SH.1 | CR3-P-SKH-106.3 | Yes | Safety | IB |
| FWH-161 | B | LCO 3.0.8.a [72 hr] | | 305-831 SH.1 | CR3-P-SKH-106.3 | Yes | Safety | IB |
| FWH-162 | B | LCO 3.0.8.a [72 hr] | | 305-831 SH.1 | CR3-P-SKH-106.3 | Yes | Safety | IB |
| FWH-163 | B | LCO 3.0.8.a [72 hr] | | 305-831 SH.1 | CR3-P-SKH-106.3 | Yes | Safety | IB |
| FWH-164 | B | LCO 3.0.8.a [72 hr] | | 305-831 SH.1 | CR3-P-SKH-106.3 | Yes | Safety | IB |
| FWH-165 | B | LCO 3.0.8.a [72 hr] | | 305-831 SH.1 | CR3-P-SKH-106.2 | Yes | Safety | IB |
| FWH-166 | B | LCO 3.0.8.a [72 hr] | | 305-831 SH.1 | CR3-P-SKH-106.2 | Yes | Safety | IB |
| FWH-167 | B | LCO 3.0.8.a [72 hr] | | 305-831 SH.1 | CR3-P-SKH-106.2 | Yes | Safety | IB |
| FWH-168 | B | LCO 3.0.8.a [72 hr] | | 305-831 SH.1 | CR3-P-SKH-106.2 | Yes | Safety | IB |
| FWH-169 | B | LCO 3.0.8.a [72 hr] | | 305-831 SH.1 | CR3-P-SKH-106.2 | Yes | Safety | IB |
| FWH-170 | B | LCO 3.0.8.a [72 hr] | | 305-831 SH.1 | CR3-P-SKH-106.2 | Yes | Safety | IB |
| FWH-171 | B | LCO 3.0.8.a [72 hr] | | 305-831 SH.1 | CR3-P-SKH-106.2 | Yes | Safety | IB |
| HVR-4 | Non-Safety | Non-Safety / Non-Seismic | | | | No | Non Safety | TB |
| HVR-10N | Non-Safety | Non-Safety / Non-Seismic | | | | No | Non Safety | TB |
| HVR-10S | Non-Safety | Non-Safety / Non-Seismic | | | | No | Non Safety | TB |

## Attachment 11
## Snubber Tech. Spec. Information

| TAG NO | TRAIN | LCO INFO | LINE DESC | ANALYTICAL DWG | ISI DWG | TECH SPEC | SAFETY REL. | BLDG |
|---|---|---|---|---|---|---|---|---|
| MSH-117 | B-2 | LCO 3.0.8.a [72 hr] | | 305-752 | CR3-P-SKH-103.3 | Yes | Safety Sig. | IB |
| MSH-118 | B-1 | LCO 3.0.8.a [72 hr] | | 305-753 | CR3-P-SKH-104.2 | Yes | Safety Sig. | IB |
| MSH-119 | B-2 | LCO 3.0.8.a [72 hr] | | 305-752 | | Yes | Safety Sig. | IB |
| MSH-120 | B-1 | LCO 3.0.8.a [72 hr] | | 305-753 | CR3-P-SKH-104.2 | Yes | Safety Sig. | IB |
| MSH-121 | B-2 | LCO 3.0.8.a [72 hr] | | 305-752 | | Yes | Safety Sig. | IB |
| MSH-122 | B-1 | LCO 3.0.8.a [72 hr] | | 305-753 | CR3-P-SKH-104.2 | Yes | Safety Sig. | IB |
| MSH-123 | B-1 | LCO 3.0.8.a [72 hr] | | 305-753 | CR3-P-SKH-104.2 | Yes | Safety | IB |
| MSH-124 | B-2 | LCO 3.0.8.a [72 hr] | | 305-752 | CR3-P-SKH-103.2 | Yes | Safety | IB |
| MSH-125 | A-2 | LCO 3.0.8.a [72 hr] | | 305-750 | CR3-P-SKH-102.2 | Yes | Safety | IB |
| MSH-126A | A-1 | LCO 3.0.8.a [72 hr] | | 305-751 | CR3-P-SKH-101.2 | Yes | Safety | IB |
| MSH-128 | A-2 | LCO 3.0.8.a [72 hr] | | 305-750 | CR3-P-SKH-102.2 | Yes | Safety | IB |
| MSH-139 | B-1 | LCO 3.0.8.a [72 hr] | | 305-804 | CR3-P-SKH-104.1 | Yes | Safety | RB |
| MSH-147 | B-2 | LCO 3.0.8.a [72 hr] | | 305-803 | CR3-P-SKH-103.1 | Yes | Safety | RB |
| MSH-149 | B-1 | LCO 3.0.8.a [72 hr] | | 305-804 | CR3-P-SKH-104.1 | Yes | Safety | RB |
| MSH-150 | B-2 | LCO 3.0.8.a [72 hr] | | 305-803 | CR3-P-SKH-103.1 | Yes | Safety | RB |
| MSH-159 | A-1 | LCO 3.0.8.a [72 hr] | | 305-802 | CR3-P-SKH-101.1 | Yes | Safety | RB |
| MSH-160 | A-2 (LCO N/A) | LCO N/A-Transient Load Sn | | 305-801 | CR3-P-SKH-102.1 | Yes | Safety | RB |
| MSH-162 | A-2 | LCO 3.0.8.a [72 hr] | | 305-801 | CR3-P-SKH-102.1 | Yes | Safety | RB |
| MSH-164 | A-2 | LCO 3.0.8.a [72 hr] | | 305-801 | CR3-P-SKH-102.1 | Yes | Safety | RB |
| MSH-165 | A-1 | LCO 3.0.8.a [72 hr] | | 305-802 | CR3-P-SKH-101.1 | Yes | Safety | RB |
| MSH-166 | B-2 (LCO N/A) | LCO N/A-Transient Load Sn | | 305-803 | CR3-P-SKH-103.1 | Yes | Safety | RB |
| MSH-167 | B-2 (LCO N/A) | LCO N/A-Transient Load Sn | | 305-803 | CR3-P-SKH-103.1 | Yes | Safety | RB |
| MSH-168 | B-1 (LCO N/A) | LCO N/A-Transient Load Sn | | 305-804 | CR3-P-SKH-104.1 | Yes | Safety | RB |
| MSH-170 | B-1 (LCO N/A) | LCO N/A-Transient Load Sn | | 305-804 | CR3-P-SKH-104.1 | Yes | Safety | RB |

## Attachment 11
## Snubber Tech. Spec. Information

| TAG NO | TRAIN | LCO INFO | LINE DESC | ANALYTICAL DWG | ISI DWG | TECH SPEC | SAFETY REL. | BLDG |
|---|---|---|---|---|---|---|---|---|
| MSH-207 | B | LCO N/A-Transient Load Sn | Terry Turbine (EFP-2) line from MS (B-2) MSV-56 | 305-825 SH.2 | CR3-P-SKH-217.1 | Yes | Safety | IB |
| MSH-212 | B | LCO 3.0.8.a [72 hr] | Terry Turbine (EFP-2) line from MS (A-1) MSV-55 | 305-825 SH.1 | CR3-P-SKH-217.2 | Yes | Safety | IB |
| MSH-213 | B | LCO 3.0.8.a [72 hr] | Terry Turbine (EFP-2) line from MS (A-1) MSV-55 | 305-825 SH.1 | CR3-P-SKH-217.2 | Yes | Safety | IB |
| MSH-214 | B | LCO 3.0.8.a [72 hr] | Terry Turbine (EFP-2) line from MS (A-1) MSV-55 | 305-825 SH.1 | CR3-P-SKH-217.2 | Yes | Safety | IB |
| MSH-223 | B-1 (LCO N/A) | LCO N/A-Transient Load Sn | | 305-753 | Location-M28 | Yes | Safety Sig. | TB |
| MSH-224 | B-1 (LCO N/A) | LCO N/A-Transient Load Sn | | 305-753 | Location-M28 | Yes | Safety Sig. | TB |
| MSH-225 | B-1 (LCO N/A) | LCO N/A-Transient Load Sn | | 305-753 | Location-M28 | Yes | Safety Sig. | TB |
| MSH-226E | B-1 (LCO N/A) | LCO N/A-Transient Load Sn | | 305-753 | Location-M28 | Yes | Safety Sig. | TB |
| MSH-226W | B-1 (LCO N/A) | LCO N/A-Transient Load Sn | | 305-753 | Location-M28 | Yes | Safety Sig. | TB |
| MSH-227 | B-1 (LCO N/A) | LCO N/A-Transient Load Sn | | 305-753 | CR3-P-SKH-104.2 | Yes | Safety Sig. | IB |
| MSH-228 | B-2 (LCO N/A) | LCO N/A-Transient Load Sn | | 305-752 | CR3-P-SKH-103.3 | Yes | Safety Sig. | TB |
| MSH-229 | B-2 (LCO N/A) | LCO N/A-Transient Load Sn | | 305-752 | Location-M28 | Yes | Safety Sig. | TB |

## Attachment 11
## Snubber Tech. Spec. Information

| TAG NO | TRAIN | LCO INFO | LINE DESC | ANALYTICAL DWG | ISI DWG | TECH SPEC | SAFETY REL. | BLDG |
|---|---|---|---|---|---|---|---|---|
| MSH-230 | B-2 (LCO N/A) | LCO N/A-Transient Load Sn | | 305-752 | CR3-P-SKH-103.3 | Yes | Safety Sig. | TB |
| MSH-231 | B-2 (LCO N/A) | LCO N/A-Transient Load Sn | | 305-752 | CR3-P-SKH-103.3 | Yes | Safety Sig. | IB |
| MSH-232 | B-2 (LCO N/A) | LCO N/A-Transient Load Sn | | 305-752 | CR3-P-SKH-103.3 | Yes | Safety Sig. | IB |
| MSH-233 | A-1 (LCO N/A) | LCO N/A-Transient Load Sn | | 305-751 | CR3-P-SKH-103.3 | Yes | Safety Sig. | TB |
| MSH-234 | A-1 (LCO N/A) | LCO N/A-Transient Load Sn | | 305-751 | Location-M27 | Yes | Safety Sig. | TB |
| MSH-235 | A-1 (LCO N/A) | LCO N/A-Transient Load Sn | | 305-751 | Location-M27 | Yes | Safety Sig. | TB |
| MSH-237 | A-2 (LCO N/A) | LCO N/A-Transient Load Sn | | 305-750 | Location-M27 | Yes | Safety Sig. | TB |
| MSH-238 | A-2 (LCO N/A) | LCO N/A-Transient Load Sn | | 305-750 | Location-M27 | Yes | Safety Sig. | TB |
| MSH-239 | A-2 (LCO N/A) | LCO N/A-Transient Load Sn | | 305-750 | Location-M27 | Yes | Safety Sig. | TB |
| MSH-240 | A-2 (LCO N/A) | LCO N/A-Transient Load Sn | | 305-750 | CR3-P-SKH-102.2 | Yes | Safety Sig. | IB |
| MSH-243 | B-2 (LCO N/A) | LCO N/A-Transient Load Sn | | 305-803 | CR3-P-SKH-103.1 | Yes | Safety | RB |
| MSH-248 | B (LCO N/A) | LCO N/A-Transient Load Sn | Terry Turbine (EFP-2) line from MS (B-2) MSV-56 | 305-825 SH.2 | CR3-P-SKH-217.1 | Yes | Safety | IB |
| MSH-250 | B (LCO N/A) | LCO N/A-Transient Load Sn | Terry Turbine (EFP-2) line from MS (A-1) MSV-55 | 305-825 SH.1 | CR3-P-SKH-217.2 | Yes | Safety | IB |
| MSH-251 | B (LCO N/A) | LCO N/A-Transient Load Sn | Terry Turbine (EFP-2) line from MS (A-1) MSV-55 | 305-825 SH.1 | CR3-P-SKH-217.2 | Yes | Safety | IB |
| MSH-252 | B | LCO 3.0.8.a [72 hr] | Terry Turbine (EFP-2) line from MS (A-1) MSV-55 | 305-825 SH.1 | CR3-P-SKH-217.2 | Yes | Safety | IB |
| MSH-255 | B | LCO 3.0.8.a [72 hr] | Terry Turbine (EFP-2) line from Aux. Steam | 305-825 SH.2 | CR3-P-SKH-217.2 | Yes | Safety Sig | IB |
| MSH-567L | A | LCO 3.0.8.a [72 hr] | Blowdown line from SG1A | 305-738 | CR3-P-SKH-104.3 | Yes | Safety | RB |
| MSH-567U | A | LCO 3.0.8.a [72 hr] | Blowdown line from SG1A | 305-738 | CR3-P-SKH-104.3 | Yes | Safety | RB |
| MSH-568L | A | LCO 3.0.8.a [72 hr] | Blowdown line from SG1A | 305-738 | CR3-P-SKH-104.3 | Yes | Safety | RB |
| MSH-568U | A | LCO 3.0.8.a [72 hr] | Blowdown line from SG1A | 305-738 | CR3-P-SKH-104.3 | Yes | Safety | RB |

## Attachment 11
## Snubber Tech. Spec. Information

| TAG NO | TRAIN | LCO INFO | LINE DESC | ANALYTICAL DWG | ISI DWG | TECH SPEC | SAFETY REL. | BLDG |
|---|---|---|---|---|---|---|---|---|
| MSH-576L | A | LCO 3.0.8.a [72 hr] | Blowdown line from SG1A | 305-738 | CR3-P-SKH-104.3 | Yes | Safety | RB |
| MSH-576U | A | LCO 3.0.8.a [72 hr] | Blowdown line from SG1A | 305-738 | CR3-P-SKH-104.3 | Yes | Safety | RB |
| MSH-664 | B | LCO 3.0.8.a [72 hr] | EFTB-1 Exhaust Stack | 305-909 | CR3-P-SKH-237.1 | Yes | Safety Sig. | IB |
| MSH-665 | B | LCO 3.0.8.a [72 hr] | EFTB-1 Exhaust Stack | 305-909 | CR3-P-SKH-237.1 | Yes | Safety Sig. | IB |
| MUH-32 | B | LCO 3.0.8.a [72 hr] | HPI to RCP-1D | 305-869 | CR3-P-SKH-7.1 | Yes | Safety | RB-2 |
| MUH-51 | A | LCO 3.0.8.a [72 hr] | HPI to RCP-1A | 305-874 | CR3-P-SKH-4.1 | Yes | Safety | RB-2 |
| MUH-80 | COMM | LCO 3.0.8.b [12 hr] | Common line to Letdown Coolers MUHE-1A, B, C | 305-871 | CR3-P-SKH-9.1 | Yes | Safety | RB-2 |
| MUH-82 | COMM | LCO 3.0.8.b [12 hr] | Common line to Letdown Coolers MUHE-1A, B, C | 305-871 | CR3-P-SKH-9.1 | Yes | Safety | RB |
| RCH-29 | COMM (LCO N/A) | LCO N/A-Transient Load Sn | Pressurizer Relief from RCV-9 (Safety) | 305-852 | CR3-P-SKH-302.1 | Yes | Safety | RB-2 |
| RCH-47N | COMM | LCO 3.0.8.b [12 hr] | Pressurizer Surge Line | | CR3-P-SKH-18.1 | Yes | Safety | RB-2 |
| RCH-47S | COMM | LCO 3.0.8.b [12 hr] | Pressurizer Surge Line | | CR3-P-SKH-18.1 | Yes | Safety | RB-2 |
| RCH-48 | COMM | LCO 3.0.8.b [12 hr] | Pressurizer Surge Line | | CR3-P-SKH-18.1 | Yes | Safety | RB-2 |
| RCH-49 | COMM | LCO 3.0.8.b [12 hr] | Pressurizer Surge Line | | CR3-P-SKH-18.1 | Yes | Safety | RB-2 |
| RCH-55 | COMM (LCO N/A) | LCO N/A-Transient Load Sn | Pressurizer Relief from RCV-8 (Safety) | 305-851 | CR3-P-SKH-301.1 | Yes | Safety Sig | RB |
| RCH-58 | COMM (LCO N/A) | LCO N/A-Transient Load Sn | Pressurizer Relief from RCV-8 (Safety) | 305-851 | CR3-P-SKH-301.1 | Yes | Safety Sig | RB |
| RCH-60 | COMM (LCO N/A) | LCO N/A-Transient Load Sn | Pressurizer Relief from RCV-9 (Safety) | 305-852 | CR3-P-SKH-302.1 | Yes | Safety Sig | RB |
| RCH-63 | COMM (LCO N/A) | LCO N/A-Transient Load Sn | Pressurizer Relief from RCV-9 (Safety) | 305-852 | CR3-P-SKH-302.1 | Yes | Safety Sig | RB-2 |
| RCH-64 | COMM (LCO N/A) | LCO N/A-Transient Load Sn | Pressurizer Relief from RCV-9 (Safety) | 305-852 | CR3-P-SKH-302.1 | Yes | Safety Sig | RB-2 |
| RCH-65 | COMM | LCO 3.0.8.b [12 hr] | Pressurizer Spray Line from RCP-1B to Pressurizer | CR3-P-8045-DH | CR3-P-SKH-19.1 | Yes | Safety | RB-2 |

## Attachment 11
## Snubber Tech. Spec. Information

| TAG NO | TRAIN | LCO INFO | LINE DESC | ANALYTICAL DWG | ISI DWG | TECH SPEC | SAFETY REL. | BLDG |
|---|---|---|---|---|---|---|---|---|
| RCH-66 | COMM | LCO 3.0.8.b [12 hr] | Pressurizer Spray Line from RCP-1B to Pressurizer | CR3-P-8045-DH | CR3-P-SKH-19.1 | Yes | Safety | RB-2 |
| RCH-67 | COMM | LCO 3.0.8.b [12 hr] | Pressurizer Spray Line from RCP-1B to Pressurizer | CR3-P-8045-DH | CR3-P-SKH-19.1 | Yes | Safety | RB-2 |
| RCH-68 | COMM | LCO 3.0.8.b [12 hr] | Pressurizer Spray Line from RCP-1B to Pressurizer | CR3-P-8045-DH | CR3-P-SKH-19.1 | Yes | Safety | RB-2 |
| RCH-69 | COMM | LCO 3.0.8.b [12 hr] | Pressurizer Spray Line from RCP-1B to Pressurizer | CR3-P-8045-DH | CR3-P-SKH-19.1 | Yes | Safety | RB-2 |
| RCH-70 | COMM | LCO 3.0.8.b [12 hr] | Pressurizer Spray Line from RCP-1B to Pressurizer | CR3-P-8045-DH | CR3-P-SKH-19.1 | Yes | Safety | RB-2 |
| RCH-71L | COMM | LCO 3.0.8.b [12 hr] | Pressurizer Spray Line from RCP-1B to Pressurizer | CR3-P-8045-DH | CR3-P-SKH-19.1 | Yes | Safety | RB-2 |
| RCH-71U | COMM | LCO 3.0.8.b [12 hr] | Pressurizer Spray Line from RCP-1B to Pressurizer | CR3-P-8045-DH | CR3-P-SKH-19.1 | Yes | Safety | RB-2 |
| RCH-73 | COMM | LCO 3.0.8.b [12 hr] | Pressurizer Spray Line from RCP-1B to Pressurizer | CR3-P-8045-DH | CR3-P-SKH-19.1 | Yes | Safety | RB-2 |
| RCH-74 | COMM | LCO 3.0.8.b [12 hr] | Pressurizer Spray Line from RCP-1B to Pressurizer | CR3-P-8045-DH | CR3-P-SKH-19.1 | Yes | Safety | RB-2 |
| RCH-76 | COMM | LCO 3.0.8.b [12 hr] | Pressurizer Spray Line from RCP-1B to Pressurizer | CR3-P-8045-DH | CR3-P-SKH-19.1 | Yes | Safety | RB-2 |
| RCH-77 | COMM | LCO 3.0.8.b [12 hr] | Pressurizer Spray Line from RCP-1B to Pressurizer | CR3-P-8045-DH | CR3-P-SKH-19.1 | Yes | Safety | RB-2 |
| RCH-78 | COMM | LCO 3.0.8.b [12 hr] | Pressurizer Spray Line from RCP-1B to Pressurizer | CR3-P-8045-DH | CR3-P-SKH-19.1 | Yes | Safety | RB-2 |
| RCH-79 | COMM | LCO 3.0.8.b [12 hr] | Pressurizer Spray Line from RCP-1B to Pressurizer | CR3-P-8045-DH | CR3-P-SKH-19.1 | Yes | Safety | RB-2 |
| RCH-80 | COMM | LCO 3.0.8.b [12 hr] | Pressurizer Spray Line from RCP-1B to Pressurizer | CR3-P-8045-DH | CR3-P-SKH-19.1 | Yes | Safety | RB-2 |
| RCH-81 | COMM | LCO 3.0.8.b [12 hr] | Pressurizer Spray Line from RCP-1B to Pressurizer | CR3-P-8045-DH | CR3-P-SKH-19.1 | Yes | Safety | RB-2 |
| RCH-84 | COMM (LCO N/A) | LCO N/A-Transient Load Sn | Pressurizer Relief from RCV-9 (Safety) | 305-852 | CR3-P-SKH-302.1 | Yes | Safety Sig | RB |

## Attachment 11
## Snubber Tech. Spec. Information

| TAG NO | TRAIN | LCO INFO | LINE DESC | ANALYTICAL DWG | ISI DWG | TECH SPEC | SAFETY REL. | BLDG |
|---|---|---|---|---|---|---|---|---|
| RCH-86 | COMM (LCO N/A) | LCO N/A-Transient Load Sn | Pressurizer Relief from RCV-9 (Safety) | 305-852 | CR3-P-SKH-302.1 | Yes | Safety Sig | RB |
| RCH-89 | COMM (LCO N/A) | LCO N/A-Transient Load Sn | Pressurizer Relief from RCV-10 (PORV) | 305-850 | CR3-P-SKH-303.1 | Yes | Safety Sig | RB |
| RCH-90 | COMM (LCO N/A) | LCO N/A-Transient Load Sn | Pressurizer Relief from RCV-10 (PORV) | 305-850 | CR3-P-SKH-303.1 | Yes | Safety Sig | RB |
| RCH-530 | COMM | LCO 3.0.8.b [12 hr] | Pressurizer Vent/Sample Line | 305-762 | CR3-P-SKH-19.2 | Yes | Safety | RB-2 |
| RCH-531 | COMM | LCO 3.0.8.b [12 hr] | Pressurizer Vent/Sample Line | 305-762 | CR3-P-SKH-19.2 | Yes | Safety | RB-2 |
| RCH-614 | COMM | LCO 3.0.8.b [12 hr] | RCP-1A | | 135881E | Yes | Safety | RB-2 D-Ring |
| RCH-618 | COMM | LCO 3.0.8.b [12 hr] | RCP-1C | | 135881E | Yes | Safety | RB-2 |
| RCH-619 | COMM | LCO 3.0.8.b [12 hr] | RCP-1C | | 135881E | Yes | Safety | RB-2 |
| RCH-620 | COMM | LCO 3.0.8.b [12 hr] | RCP-1D | | 135881E | Yes | Safety | RB-2 I/S B-D-Ring |
| RVR-3E | Non-Safety | Non-Safety / Non-Seismic | | | | No | Non Safety | TB |
| RVR-3W | Non-Safety | Non-Safety / Non-Seismic | | | | No | Non Safety | TB |
| RVR-4E | Non-Safety | Non-Safety / Non-Seismic | | | | No | Non Safety | TB |
| RVR-4W | Non-Safety | Non-Safety / Non-Seismic | | | | No | Non Safety | TB |
| RVR-5N | Non-Safety | Non-Safety / Non-Seismic | | | | No | Non Safety | TB |
| RVR-5S | Non-Safety | Non-Safety / Non-Seismic | | | | No | Non Safety | TB |
| RVR-6N | Non-Safety | Non-Safety / Non-Seismic | | | | No | Non Safety | TB |
| RVR-6S | Non-Safety | Non-Safety / Non-Seismic | | | | No | Non Safety | TB |
| SWH-483 | "D" RCP | LCO 3.0.8.a [72 hr] | RCP-1D Return | 305-715 | CR3-P-SKH-220.2 | Yes | Safety | RB |
| SWH-493L | "D" RCP | LCO 3.0.8.a [72 hr] | RCP-1D Return | 305-715 | CR3-P-SKH-220.2 | Yes | Safety | RB-2 |
| SWH-493U | "D" RCP | LCO 3.0.8.a [72 hr] | RCP-1D Return | 305-715 | CR3-P-SKH-220.2 | Yes | Safety | RB-2 |
| SWR-18 | COMM | LCO 3.0.8.b [12 hr] | | 305-931 | CR3-P-SKH-211.1 | Yes | Safety | AB |

## Attachment 11
## Snubber Tech. Spec. Information

| TAG NO | TRAIN | LCO INFO | LINE DESC | ANALYTICAL DWG | ISI DWG | TECH SPEC | SAFETY REL. | BLDG |
|---|---|---|---|---|---|---|---|---|
| SWR-91 | COMM | LCO 3.0.8.b [12 hr] | | 305-937 | CR3-P-SKH-208.1 | Yes | Safety | AB |
| SWR-423 | "B" RCP | LCO 3.0.8.a [72 hr] | RCP-1B Supply | 305-700 | CR3-P-SKH-220.3 | Yes | Safety | RB-2 |
| SWR-425 | "B" RCP | LCO 3.0.8.a [72 hr] | RCP-1B Supply | 305-700 | CR3-P-SKH-220.3 | Yes | Safety | RB-2 |
| SWR-440 | "B" RCP | LCO 3.0.8.a [72 hr] | RCP-1B Return | 305-705 | CR3-P-SKH-220.3 | Yes | Safety | RB-2 |

**Attachment 12 – OMN-13 Visual Examination Tracking**

**Safety / Safety-Significant Snubbers**

| MARK NO | OUTAGE NO | REPORT NO | DATE OF LAST VISUAL EXAM | DATE NEXT VISUAL EXAM DUE |
|---|---|---|---|---|
| BSR-35 | RFO16 | VT-09-0003 | 16-Sep-09 | 16-Sep-19 |
| CFH-14 | RFO15 | VT-07-0214 | 06-Nov-07 | 06-Nov-17 |
| CFH-15 | RFO15 | VT-07-0215 | 06-Nov-07 | 06-Nov-17 |
| CFH-17 | RFO15 | VT-07-0149 | 05-Nov-07 | 05-Nov-17 |
| CFH-18 | RFO15 | VT-07-0150 | 05-Nov-07 | 05-Nov-17 |
| CFH-19 | RFO16 | VT-09-0069 | 07-Oct-09 | 07-Oct-19 |
| DHH-36 | RFO15 | VT-07-0176 | 06-Nov-07 | 06-Nov-17 |
| DHH-37 | RFO15 | VT-07-0248 | 08-Nov-07 | 08-Nov-17 |
| DHH-39 | RFO15 | VT-07-0127 | 04-Nov-07 | 04-Nov-17 |
| EFH-109 | RFO15 | VT-07-0016 | 29-Oct-07 | 29-Oct-17 |
| EFH-141 | RFO15 | VT-07-0018 | 29-Oct-07 | 29-Oct-17 |
| EFH-95 | RFO15 | VT-07-0015 | 29-Oct-07 | 29-Oct-17 |
| FWH-125 | RFO16 | VT-09-0072 | 07-Oct-09 | 07-Oct-19 |
| FWH-133 | RFO16 | VT-09-0087 | 12-Oct-09 | 12-Oct-19 |
| FWH-142 | RFO16 | VT-09-0030 | 29-Sep-09 | 29-Sep-19 |
| FWH-143 | RFO16 | VT-09-0024 | 29-Sep-09 | 29-Sep-19 |
| FWH-151 | RFO16 | VT-09-0050 | 01-Oct-09 | 01-Oct-19 |
| FWH-163 | RFO16 | VT-09-0031 | 29-Sep-09 | 29-Sep-19 |
| MSH-117 | RFO15 | VT-07-0061 | 30-Oct-07 | 30-Oct-17 |
| MSH-121 | RFO15 | VT-07-0067 | 30-Oct-07 | 30-Oct-17 |
| MSH-150 | RFO16 | VT-09-0043 | 30-Sep-09 | 30-Sep-19 |
| MSH-168 | RFO15 | VT-07-0165 | 05-Nov-07 | 05-Nov-17 |
| MSH-212 | RFO15 | VT-07-0081 | 30-Oct-07 | 30-Oct-17 |
| MSH-213 | RFO15 | VT-07-0082 | 30-Oct-07 | 30-Oct-17 |
| MSH-214 | RFO15 | VT-07-0083 | 30-Oct-07 | 30-Oct-17 |
| MSH-227 | RFO15 | VT-07-0089 | 31-Oct-07 | 31-Oct-17 |
| MSH-233 | RFO15 | VT-07-0095 | 31-Oct-07 | 31-Oct-17 |
| MSH-234 | RFO15 | VT-07-0096 | 31-Oct-07 | 31-Oct-17 |
| MSH-237 | RFO15 | VT-07-0098 | 31-Oct-07 | 31-Oct-17 |
| MSH-238 | RFO15 | VT-07-0099 | 31-Oct-07 | 31-Oct-17 |
| MSH-240 | RFO16 | VT-09-0036 | 29-Sep-09 | 29-Sep-19 |
| MSH-664 | RFO15 | VT-07-0110 | 31-Oct-07 | 31-Oct-17 |
| MUH-80 | RFO15 | VT-07-0194 | 12-Nov-07 | 12-Nov-17 |

**Attachment 12 – OMN-13 Visual Examination Tracking**

| MARK NO | OUTAGE NO | REPORT NO | DATE OF LAST VISUAL EXAM | DATE NEXT VISUAL EXAM DUE |
|---|---|---|---|---|
| MUH-82 | RFO15 | VT-07-0190 | 09-Nov-07 | 09-Nov-17 |
| RCH-29 | RFO15 | VT-07-0122 | 03-Nov-07 | 03-Nov-17 |
| RCH-47N | RFO15 | VT-07-0225 | 06-Nov-07 | 06-Nov-17 |
| RCH-47S | RFO15 | VT-07-0226 | 06-Nov-07 | 06-Nov-17 |
| RCH-48 | RFO15 | VT-07-0227 | 06-Nov-07 | 06-Nov-17 |
| RCH-49 | RFO15 | VT-07-0202 | 08-Nov-07 | 08-Nov-17 |
| RCH-60 | RFO15 | VT-07-0137 | 03-Nov-07 | 03-Nov-17 |
| RCH-614 | RFO15 | VT-07-0197 | 12-Nov-07 | 12-Nov-17 |
| RCH-620 | RFO15 | VT-07-0278 | 20-Nov-07 | 20-Nov-17 |
| RCH-63 | RFO15 | VT-07-0249 | 08-Nov-07 | 08-Nov-17 |
| RCH-64 | RFO15 | VT-07-0250 | 08-Nov-07 | 08-Nov-17 |
| RCH-65 | RFO15 | VT-07-0228 | 06-Nov-07 | 06-Nov-17 |
| RCH-66 | RFO15 | VT-07-0229 | 06-Nov-07 | 06-Nov-17 |
| RCH-67 | RFO15 | VT-07-0128 | 03-Nov-07 | 03-Nov-17 |
| RCH-68 | RFO15 | VT-07-0126 | 03-Nov-07 | 03-Nov-17 |
| RCH-69 | RFO15 | VT-07-0124 | 03-Nov-07 | 03-Nov-17 |
| RCH-70 | RFO15 | VT-07-0129 | 03-Nov-07 | 03-Nov-17 |
| RCH-71L | RFO15 | VT-07-0136 | 03-Nov-07 | 03-Nov-17 |
| RCH-71U | RFO15 | VT-07-0135 | 03-Nov-07 | 03-Nov-17 |
| RCH-73 | RFO16 | VT-09-0022 | 28-Sep-09 | 28-Sep-19 |
| RCH-74 | RFO15 | VT-07-0123 | 03-Nov-07 | 03-Nov-17 |
| RCH-76 | RFO16 | VT-09-0102 | 16-Oct-09 | 16-Oct-19 |
| RCH-77 | RFO15 | VT-07-0231 | 06-Nov-07 | 06-Nov-17 |
| RCH-78 | RFO15 | VT-07-0232 | 06-Nov-07 | 06-Nov-17 |
| RCH-79 | RFO15 | VT-07-0233 | 06-Nov-07 | 06-Nov-17 |
| RCH-80 | RFO15 | VT-07-0130 | 03-Nov-07 | 03-Nov-17 |
| SWR-423 | RFO15 | VT-07-0275 | 19-Nov-07 | 19-Nov-17 |
| SWR-425 | RFO15 | VT-07-0177 | 06-Nov-07 | 06-Nov-17 |
| SWR-440 | RFO15 | VT-07-0178 | 06-Nov-07 | 06-Nov-17 |
| DCR-33E | RFO15 | VT-07-0006 | 29-Oct-07 | 29-Oct-17 |
| DCR-33W | RFO15 | VT-07-0007 | 29-Oct-07 | 29-Oct-17 |
| DHH-18 | RFO15 | VT-07-0217 | 05-Nov-07 | 05-Nov-17 |
| DHH-25 | RFO15 | VT-07-0199 | 12-Nov-07 | 12-Nov-17 |
| DHH-26H | RFO15 | VT-07-0200 | 09-Nov-07 | 09-Nov-17 |

**Attachment 12 – OMN-13 Visual Examination Tracking**

| MARK NO | OUTAGE NO | REPORT NO | DATE OF LAST VISUAL EXAM | DATE NEXT VISUAL EXAM DUE |
|---|---|---|---|---|
| DHH-26V | RFO15 | VT-07-0245 | 07-Nov-07 | 07-Nov-17 |
| DHH-35 | RFO15 | VT-07-0175 | 06-Nov-07 | 06-Nov-17 |
| DHH-38 | RFO15 | VT-07-0192 | 08-Nov-07 | 08-Nov-17 |
| EFH-92 | RFO15 | VT-07-0013 | 29-Oct-07 | 29-Oct-17 |
| EFH-93 | RFO15 | VT-07-0014 | 29-Oct-07 | 29-Oct-17 |
| FWH-122 | RFO16 | VT-09-0115 | 27-Oct-09 | 27-Oct-19 |
| FWH-123 | RFO16 | VT-09-0042 | 30-Sep-09 | 30-Sep-19 |
| FWH-128 | RFO16 | VT-09-0088 | 12-Oct-09 | 12-Oct-19 |
| FWH-138 | RFO16 | VT-09-0023 | 29-Sep-09 | 29-Sep-19 |
| FWH-140 | RFO16 | VT-09-0062 | 04-Oct-09 | 04-Oct-19 |
| FWH-141 | RFO16 | VT-09-0063 | 04-Oct-09 | 04-Oct-19 |
| FWH-144 | RFO16 | VT-09-0025 | 29-Sep-08 | 29-Sep-08 |
| FWH-145 | RFO16 | VT-09-0029 | 29-Sep-09 | 29-Sep-19 |
| FWH-146 | RFO16 | VT-09-0028 | 29-Sep-09 | 29-Sep-19 |
| FWH-159 | RFO15 | VT-07-0041 | 29-Oct-07 | 29-Oct-17 |
| FWH-161 | RFO15 | VT-07-0043 | 29-Oct-07 | 29-Oct-17 |
| FWH-165 | RFO15 | VT-07-0046 | 29-Oct-07 | 29-Oct-17 |
| FWH-166 | RFO15 | VT-07-0047 | 30-Oct-07 | 30-Oct-17 |
| FWH-167 | RFO15 | VT-07-0048 | 30-Oct-07 | 30-Oct-17 |
| FWH-168 | RFO15 | VT-07-0049 | 30-Oct-07 | 30-Oct-17 |
| MSH-118 | RFO15 | VT-07-0062 | 30-Oct-07 | 30-Oct-17 |
| MSH-119 | RFO15 | VT-07-0063 | 31-Oct-07 | 31-Oct-17 |
| MSH-120 | RFO15 | VT-07-0064 | 30-Oct-07 | 30-Oct-17 |
| MSH-122 | RFO15 | VT-07-0068 | 30-Oct-07 | 30-Oct-17 |
| MSH-123 | RFO15 | VT-07-0069 | 30-Oct-07 | 30-Oct-17 |
| MSH-125 | RFO15 | VT-07-0071 | 30-Oct-07 | 30-Oct-17 |
| MSH-128 | RFO15 | VT-07-0073 | 30-Oct-07 | 30-Oct-17 |
| MSH-139 | RFO15 | VT-07-0218 | 06-Nov-07 | 06-Nov-17 |
| MSH-226E | RFO15 | VT-07-0087 | 30-Oct-07 | 30-Oct-17 |
| MSH-226W | RFO15 | VT-07-0088 | 31-Oct-07 | 31-Oct-17 |
| MSH-248 | RFO16 | VT-09-0057 | 02-Oct-09 | 02-Oct-19 |
| MSH-250 | RFO16 | VT-09-0048 | 01-Oct-09 | 01-Oct-19 |
| MSH-252 | RFO16 | VT-09-0049 | 01-Oct-09 | 01-Oct-19 |
| MSH-567L | RFO16 | VT-09-0071 | 07-Oct-09 | 07-Oct-19 |

**Attachment 12 – OMN-13 Visual Examination Tracking**

| MARK NO | OUTAGE NO | REPORT NO | DATE OF LAST VISUAL EXAM | DATE NEXT VISUAL EXAM DUE |
|---|---|---|---|---|
| MSH-567U | RFO16 | VT-09-0070 | 07-Oct-09 | 07-Oct-19 |
| MSH-568L | RFO15 | VT-07-0221 | 07-Nov-07 | 07-Nov-17 |
| MSH-568U | RFO15 | VT-07-0222 | 07-Nov-07 | 07-Nov-17 |
| MSH-576L | RFO15 | VT-07-0244 | 07-Nov-07 | 07-Nov-17 |
| MSH-576U | RFO15 | VT-07-0240 | 07-Nov-07 | 07-Nov-17 |
| MSH-665 | RFO15 | VT-07-0109 | 31-Oct-07 | 31-Oct-17 |
| MUH-32 | RFO15 | VT-07-0169 | 05-Nov-07 | 05-Nov-17 |
| RCH-618 | RFO15 | VT-07-0206 | 12-Nov-07 | 12-Nov-17 |
| RCH-86 | RFO15 | VT-07-0172 | 05-Nov-07 | 05-Nov-17 |
| BSH-19 | RFO15 | VT-07-0213 | 06-Nov-07 | 06-Nov-17 |
| CFH-16 | RFO15 | VT-07-0080 | 05-Nov-07 | 05-Nov-17 |
| DHR-18 | RFO15 | VT-07-0008 | 29-Oct-07 | 29-Oct-17 |
| DHR-28 | RFO15 | VT-07-0010 | 29-Oct-07 | 29-Oct-17 |
| DHR-37 | RFO15 | VT-07-0012 | 29-Oct-07 | 29-Oct-17 |
| DHR-49 | RFO15 | VT-07-0001 | 31-Oct-07 | 31-Oct-17 |
| EFH-110 | RFO15 | VT-07-0017 | 29-Oct-07 | 29-Oct-17 |
| EFH-143 | RFO15 | VT-07-0019 | 29-Oct-07 | 29-Oct-17 |
| EFH-144 | RFO15 | VT-07-0020 | 29-Oct-07 | 29-Oct-17 |
| FWH-124 | RFO15 | VT-07-0154 | 05-Nov-07 | 05-Nov-17 |
| FWH-130 | RFO15 | VT-07-0147 | 05-Nov-07 | 05-Nov-17 |
| FWH-131 | RFO15 | VT-07-0155 | 05-Nov-07 | 05-Nov-17 |
| FWH-132 | RFO15 | VT-07-0156 | 05-Nov-07 | 05-Nov-17 |
| FWH-139 | RFO15 | VT-07-0022 | 29-Oct-07 | 29-Oct-17 |
| FWH-148 | RFO15 | VT-07-0030 | 29-Oct-07 | 29-Oct-17 |
| FWH-149 | RFO15 | VT-07-0031 | 29-Oct-07 | 29-Oct-17 |
| FWH-150 | RFO15 | VT-07-0032 | 29-Oct-07 | 29-Oct-17 |
| FWH-152 | RFO15 | VT-07-0034 | 29-Oct-07 | 29-Oct-17 |
| FWH-153 | RFO15 | VT-07-0035 | 29-Oct-07 | 29-Oct-17 |
| FWH-154 | RFO15 | VT-07-0036 | 29-Oct-07 | 29-Oct-17 |
| FWH-155 | RFO15 | VT-07-0037 | 29-Oct-07 | 29-Oct-17 |
| FWH-156 | RFO15 | VT-07-0038 | 29-Oct-07 | 29-Oct-17 |
| FWH-157 | RFO15 | VT-07-0039 | 29-Oct-07 | 29-Oct-17 |
| MSH-159 | RFO15 | VT-07-0247 | 07-Nov-07 | 07-Nov-17 |
| MSH-164 | RFO15 | VT-07-0146 | 04-Nov-07 | 04-Nov-17 |

**Attachment 12 – OMN-13 Visual Examination Tracking**

| MARK NO | OUTAGE NO | REPORT NO | DATE OF LAST VISUAL EXAM | DATE NEXT VISUAL EXAM DUE |
|---|---|---|---|---|
| MSH-166 | RFO15 | VT-07-0163 | 05-Nov-07 | 05-Nov-17 |
| MSH-170 | RFO15 | VT-07-0166 | 05-Nov-07 | 05-Nov-17 |
| MSH-207 | RFO15 | VT-07-0076 | 30-Oct-07 | 30-Oct-17 |
| MSH-224 | RFO15 | VT-07-0085 | 30-Oct-07 | 30-Oct-17 |
| MSH-225 | RFO15 | VT-07-0086 | 30-Oct-07 | 30-Oct-17 |
| MSH-229 | RFO15 | VT-07-0091 | 31-Oct-07 | 31-Oct-17 |
| MSH-230 | RFO15 | VT-07-0092 | 31-Oct-07 | 31-Oct-17 |
| MSH-231 | RFO15 | VT-07-0093 | 31-Oct-07 | 31-Oct-17 |
| MSH-239 | RFO15 | VT-07-0100 | 31-Oct-07 | 31-Oct-17 |
| MSH-243 | RFO15 | VT-07-0167 | 05-Nov-07 | 05-Nov-17 |
| MSH-251 | RFO15 | VT-07-0104 | 31-Oct-07 | 31-Oct-17 |
| MSH-255 | RFO15 | VT-07-0108 | 31-Oct-07 | 31-Oct-17 |
| MUH-51 | RFO15 | VT-07-0261 | 18-Nov-07 | 18-Nov-17 |
| RCH-530 | RFO15 | VT-07-0131 | 06-Nov-07 | 06-Nov-17 |
| RCH-531 | RFO15 | VT-07-0134 | 03-Nov-07 | 03-Nov-17 |
| RCH-55 | RFO15 | VT-07-0145 | 04-Nov-07 | 04-Nov-17 |
| RCH-58 | RFO15 | VT-07-0141 | 04-Nov-07 | 04-Nov-17 |
| RCH-619 | RFO16 | VT-09-0079 | 07-Oct-09 | 07-Oct-19 |
| SWH-483 | RFO15 | VT-07-0208 | 12-Nov-07 | 12-Nov-17 |
| SWH-493L | RFO15 | VT-07-0257 | 18-Nov-07 | 18-Nov-17 |
| SWH-493U | RFO15 | VT-07-0258 | 18-Nov-07 | 18-Nov-17 |
| SWR-18 | RFO15 | VT-07-0120 | 31-Oct-07 | 31-Oct-17 |
| BSH-14 | RFO16 | VT-09-0097 | 14-Oct-09 | 14-Oct-19 |
| BSR-31 | RFO16 | VT-09-0005 | 21-Sep-09 | 21-Sep-19 |
| DHH-17 | RFO16 | VT-09-0107 | 22-Oct-09 | 22-Oct-19 |
| DHH-23 | RFO16 | VT-09-0083 | 11-Oct-09 | 11-Oct-19 |
| DHH-27 | RFO16 | VT-09-0084 | 11-Oct-09 | 11-Oct-19 |
| DHR-21 | RFO16 | VT-09-0013 | 22-Sep-09 | 22-Sep-19 |
| DHR-24L | RFO16 | VT-09-0009 | 22-Sep-09 | 22-Sep-19 |
| DHR-24U | RFO16 | VT-09-0010 | 22-Sep-09 | 22-Sep-19 |
| DHR-31 | RFO16 | VT-09-0006 | 21-Sep-09 | 21-Sep-19 |
| DHR-64 | RFO16 | VT-10-0001 | 26-Jan-10 | 26-Jan-20 |
| EFH-27 | RFO16 | VT-09-0065 | 05-Oct-09 | 05-Oct-19 |
| EFH-28 | RFO16 | VT-09-0064 | 05-Oct-09 | 05-Oct-19 |

**Attachment 12 – OMN-13 Visual Examination Tracking**

| MARK NO | OUTAGE NO | REPORT NO | DATE OF LAST VISUAL EXAM | DATE NEXT VISUAL EXAM DUE |
|---|---|---|---|---|
| EFH-94 | RFO16 | VT-09-0052 | 01-Oct-09 | 01-Oct-19 |
| FWH-147A | RFO16 | VT-09-0037 | 29-Sep-09 | 29-Sep-19 |
| FWH-158 | RFO16 | VT-09-0026 | 29-Sep-09 | 29-Sep-19 |
| FWH-160 | RFO16 | VT-09-0045 | 01-Oct-09 | 01-Oct-19 |
| FWH-162 | RFO16 | VT-09-0021 | 28-Sep-09 | 28-Sep-19 |
| FWH-164 | RFO16 | VT-09-0027 | 29-Sep-09 | 29-Sep-19 |
| FWH-169 | RFO16 | VT-09-0051 | 01-Oct-09 | 01-Oct-19 |
| FWH-170 | RFO16 | VT-09-0056 | 02-Oct-09 | 02-Oct-19 |
| FWH-171 | RFO16 | VT-09-0018 | 25-Sep-09 | 25-Sep-19 |
| MSH-124 | RFO16 | VT-09-0082 | 11-Oct-09 | 11-Oct-19 |
| MSH-126A | RFO16 | VT-09-0035 | 29-Sep-09 | 29-Sep-19 |
| MSH-147 | RFO16 | VT-09-0044 | 30-Sep-09 | 30-Sep-19 |
| MSH-149 | RFO16 | VT-09-0041 | 30-Sep-09 | 30-Sep-19 |
| MSH-160 | RFO16 | VT-09-0058 | 02-Oct-09 | 02-Oct-19 |
| MSH-162 | RFO16 | VT-09-0060 | 04-Oct-09 | 04-Oct-19 |
| MSH-165 | RFO16 | VT-09-0040 | 30-Sep-09 | 30-Sep-19 |
| MSH-167 | RFO16 | VT-09-0094 | 13-Oct-09 | 13-Oct-19 |
| MSH-223 | RFO16 | VT-09-0055 | 01-Oct-09 | 01-Oct-19 |
| MSH-228 | RFO16 | VT-09-0068 | 06-Oct-09 | 06-Oct-19 |
| MSH-232 | RFO16 | VT-09-0017 | 25-Sep-09 | 25-Sep-19 |
| MSH-235 | RFO16 | VT-09-0038 | 29-Sep-09 | 29-Sep-19 |
| RCH-81 | RFO16 | VT-09-0020 | 28-Sep-09 | 28-Sep-19 |
| RCH-84 | RFO16 | VT-09-0073 | 08-Oct-09 | 08-Oct-19 |
| RCH-89 | RFO16 | VT-09-0074 | 08-Oct-09 | 08-Oct-19 |
| RCH-90 | RFO16 | VT-09-0075 | 08-Oct-09 | 08-Oct-19 |
| SWR-91 | RFO16 | VT-09-0032 | 29-Sep-09 | 29-Sep-19 |

Attachment 12 – OMN-13 Visual Examination Tracking

| Non-Safety Snubbers | | | | |
|---|---|---|---|---|
| MARK NO | OUTAGE NO | REPORT NO | DATE OF LAST VISUAL EXAM | DATE NEXT VISUAL EXAM DUE |
| HVR-10N | RFO15 | VT-07-0054 | 30-Oct-07 | 30-Oct-17 |
| HVR-10S | RFO15 | VT-07-0055 | 30-Oct-07 | 30-Oct-17 |
| HVR-4 | RFO15 | VT-07-0053 | 30-Oct-07 | 30-Oct-17 |
| RVR-3E | RFO15 | VT-07-0112 | 31-Oct-07 | 31-Oct-17 |
| RVR-3W | RFO15 | VT-07-0113 | 31-Oct-07 | 31-Oct-17 |
| RVR-4E | RFO15 | VT-07-0114 | 31-Oct-07 | 31-Oct-17 |
| RVR-4W | RFO15 | VT-07-0115 | 31-Oct-07 | 31-Oct-17 |
| RVR-5N | RFO15 | VT-07-0116 | 31-Oct-07 | 31-Oct-17 |
| RVR-5S | RFO15 | VT-07-0117 | 31-Oct-07 | 31-Oct-17 |
| RVR-6N | RFO15 | VT-07-0118 | 31-Oct-07 | 31-Oct-17 |
| RVR-6S | RFO15 | VT-07-0119 | 31-Oct-07 | 31-Oct-17 |